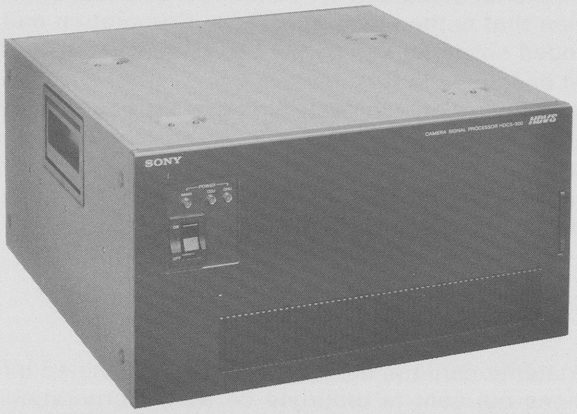
SONY®

HD CAMERA SIGNAL PROCESSOR
HDCS-300



HDVS

MAINTENANCE MANUAL
Volume 2 1st Edition (Revised 3)
Serial No. 10001 and Higher

SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

For the customers in the U.S.A.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.

"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC Rules."

—or—

"This equipment complies with the requirements in Part 15 of FCC Rules for a Class A Computing Device."

—or equivalent.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 7.5 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

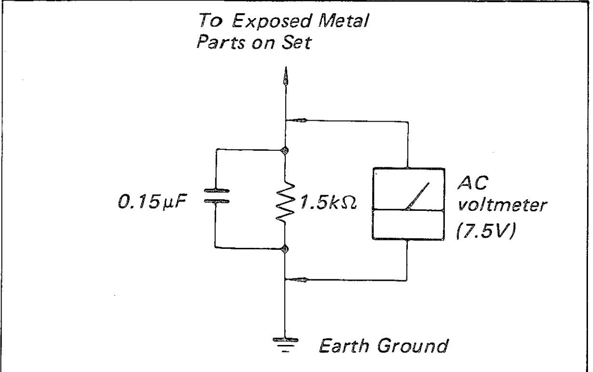

Fig. A. Using an AC voltmeter to check AC leakage.

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BLOCK DIAGRAM

OVERALL BLOCK

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IV-18
PR-114
AD-39
DT-18
DT-19
DA-29
MS-23
VDA-13
CN-272
POWER UNIT
LF-20
SG-140/155 (1/2)
SG-140/155 (2/2)
IF-212

1
2
3
4
5
6

HDCS-300 OVERALL BLOCK

HDCS-300 (W.W)

HDCS-300 (W.W)

A-1 A-2 A-3 A-4

A	B	C	D	E	F	G	H	I	J	K	L	M

B-HDCS300-OVERALL/BLOCK

IV-18 BLOCK

1

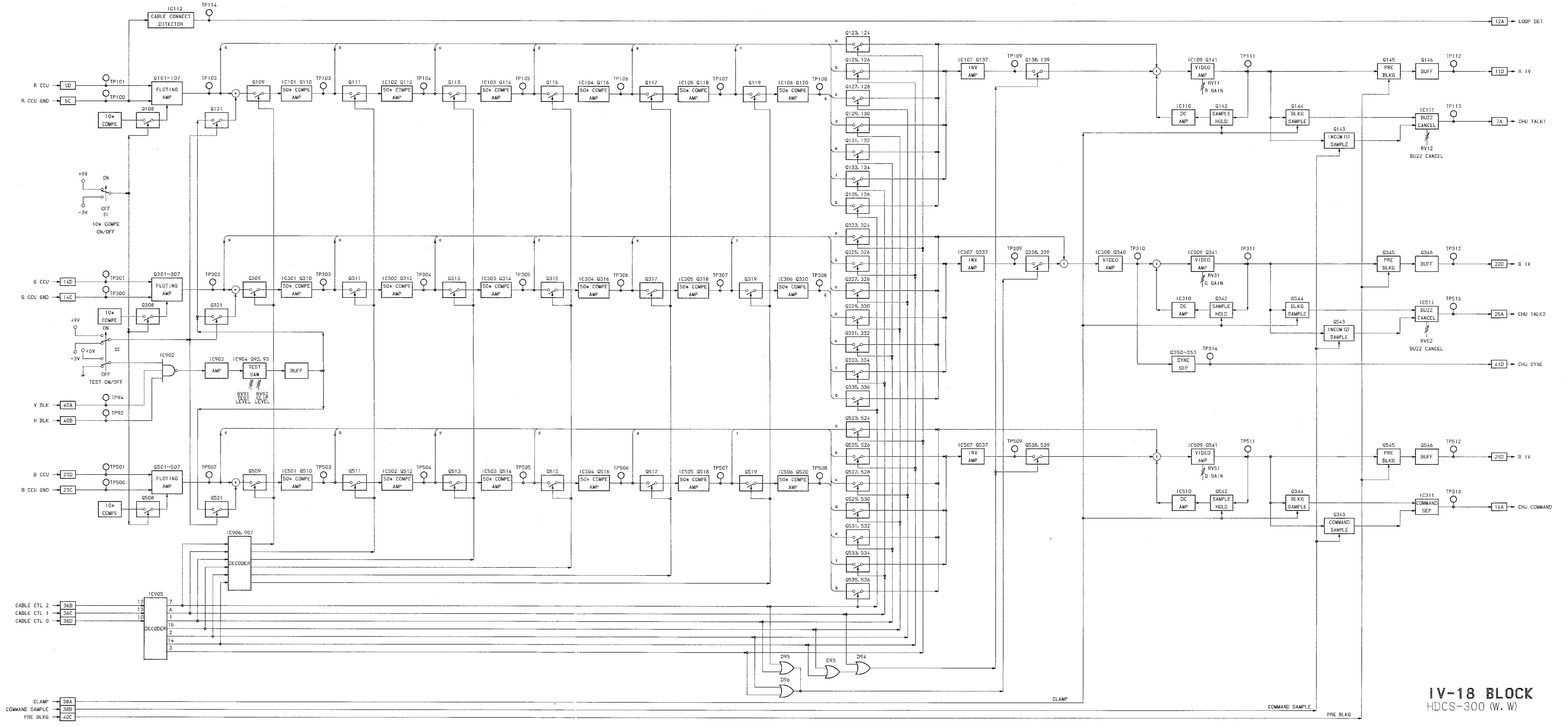
2

3

4

5

6


IC112
CABLE CONNECT DITECTOR
TP114
12A
LOOP DET
R CCU
5D
R CCU GND
5C
TP101
TP100
Q101~107
FLOTING AMP
10m COMPE
Q108
TP103
Q121
Q109
IC101 Q110
50m COMPE AMP
TP103
Q111
IC102 Q112
50m COMPE AMP
TP104
Q113
IC103 Q114
50m COMPE AMP
TP105
Q115
IC104 Q116
50m COMPE AMP
TP106
Q117
a
b
c
d
e
+9V
ON
-3V
OFF
S1
10m COMPE ON/OFF
G CCU
14D
G CCU GND
14C
TP301
TP300
Q301~307
FLOTING AMP
10m COMPE
Q308
TP302
Q321
Q309
IC301 Q310
50m COMPE AMP
TP303
Q311
IC302 Q312
50m COMPE AMP
TP304
Q313
IC303 Q314
50m COMPE AMP
TP305
Q315
IC304 Q316
50m COMPE AMP
TP306
Q317
+9V
ON
+5V
-3V
S2
OFF
TEST ON/OFF
IC902
IC903
AMP
IC904 Q92, 93
TEST SAW
BUFF
RV91 TEST LEVEL
RV92 CLIP LEVEL
V BLK
40A
TP94
H BLK
40B
TP92
B CCU
23D
B CCU GND
23C
TP501
TP500
Q501~507
FLOTING AMP
10m COMPE
Q508
TP502
Q521
Q509
IC501 Q510
50m COMPE AMP
TP503
Q511
IC502 Q512
50m COMPE AMP
TP504
Q513
IC503 Q514
50m COMPE AMP
TP505
Q515
IC504 Q516
50m COMPE AMP
TP506
Q517
IC906, 907
DECODER
IC905
DECODER
CABLE CTL 2
36B
CABLE CTL 1
36C
CABLE CTL 0
36D
12
13
10
7
6
1
15
2
14
3
CLAMP
38A
COMMAND SAMPLE
38B
PRE BLKG
40C
IC107 Q137
INV AMP
TP109
Q138, 139
IC109 Q141
VIDEO AMP
RV11
R GAIN
TP111
IC110
DC AMP
Q142
SAMPLE HOLD
Q144
BLKG SAMPLE
Q143
INCOM (1) SAMPLE
Q145
PRE BLKG
Q146
BUFF
TP112
11D
R IV
IC111
BUZZ CANCEL
TP113
7A
CHU TALK1
RV12
BUZZ CANCEL
IC307 Q337
INV AMP
TP309
Q338, 339
IC308 Q340
VIDEO AMP
TP310
IC309 Q341
VIDEO AMP
RV31
G GAIN
TP311
IC310
DC AMP
Q342
SAMPLE HOLD
Q544
BLKG SAMPLE
Q543
INCOM (2) SAMPLE
Q345
PRE BLKG
Q346
BUFF
TP312
20D
G IV
IC511
BUZZ CANCEL
TP513
25A
CHU TALK2
RV52
BUZZ CANCEL
Q350~353
SYNC SEP
TP314
41D
CHU SYNC
IC507 Q537
INV AMP
TP509
Q538, 539
IC509 Q541
VIDEO AMP
RV51
B GAIN
TP511
IC510
DC AMP
Q542
SAMPLE HOLD
Q344
BLKG SAMPLE
Q343
COMMAND SAMPLE
Q545
PRE BLKG
Q546
BUFF
TP512
29D
B IV
IC311
COMMAND SEP
TP313
16A
CHU COMMAND
CLAMP
COMMAND SAMPLE
PRE BLKG

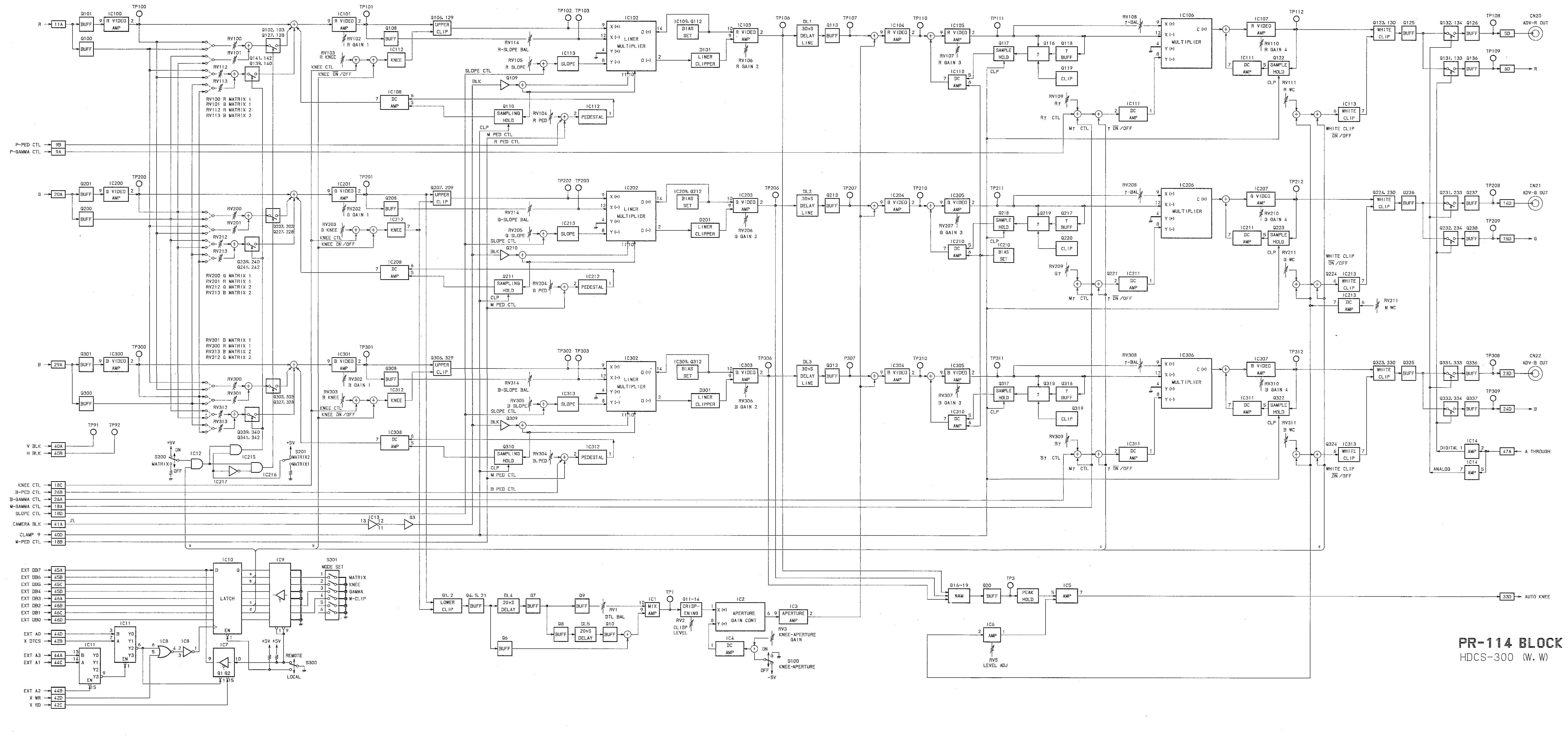
IV-18 BLOCK
HDCS-300 (W. W)

HDCS-300 (W. W)

A-5 A-6 A-7 A-8

A B C D E F G H I J K L M

PR-114 BLOCK


R
G
B
V BLK
H BLK
TP91
TP92
KNEE CTL
B-PED CTL
B-GAMMA CTL
M-GAMMA CTL
SLOPE CTL
CAMERA BLK
CLAMP 9
M-PED CTL
EXT DB7
EXT DB6
EXT DB5
EXT DB4
EXT DB3
EXT DB2
EXT DB1
EXT DB0
EXT A0
X DTCS
EXT A3
EXT A1
EXT A2
X WR
X RD
IC10
LATCH
IC9
S301
MODE SET
MATRIX
KNEE
GAMMA
W-CLIP
IC11
IC8
IC7
REMOTE
LOCAL
S300
S200
MATRIX
ON
OFF
IC12
IC215
IC216
IC217
S201
MATRIX2
MATRIX1
IC13
Q3
Q1, 2
LOWER CLIP
LINER MULTIPLIER
LINER CLIPPER
DELAY LINE
SAMPLE HOLD
MULTIPLIER
WHITE CLIP
DC AMP
PEDESTAL
SAMPLING HOLD
APERTURE GAIN CONT
PEAK HOLD
AUTO KNEE
Q123, 130
WHITE CLIP
Q125
BUFF
Q132, 134
Q126
TP108
5D
CN20
ADV-R OUT
Q131, 133
Q136
TP109
6D
R
Q224, 230
Q226
Q231, 233
Q237
TP208
14D
CN21
ADV-G OUT
Q232, 234
Q238
TP209
15D
G
RV211
M WC
Q323, 330
Q325
Q331, 333
Q336
TP308
23D
CN22
ADV-B OUT
Q332, 334
Q337
TP309
24D
B
IC14
AMP
DIGITAL 1
ANALOG
47A
A THROUGH

PR-114 BLOCK
HDCS-300 (W. W)

AD-39 BLOCK

1
2
3
4
5
6
R
G
B
CLAMP
CLK
XCLK
SYNC 0
SYNC 1
H BLANK
1/4 CLK
X 1/4 CLK
BUFFER
VIDEO AMP
LPF
DC AMP
SAMPLE HOLD
VOLTAGE REF
CONSTANT VOLTAGE
R A/D CONVERTER
G A/D CONVERTER
B A/D CONVERTER
CK SET
RV101 R GAIN
RV102 R PED
RV201 G GAIN
RV202 G PED
RV301 B GAIN
RV302 B PED
LINE RECEIVER
CLOCK DISTRIBUTOR
LINE DRIVER
DELAY LINE
LATCH
DELAY (LATCH)
V-H WINDOW
KNEE
RV401 LEVEL TRACKING
RV402 GAIN
RV403 LEVEL TRACKING
SAMPLING
MATRIX
PEAK SAMPLING PULSE GENERATOR
INV AMP
BUFF
PEAK CLAMP & HOLD
WHT CK LEV DET
BLK CK LEV DET
REFERENCE VOLTAGE
RESISTOR NETWORK
RV404 V REF ADJ
REF VOLTAGE
RV406 VOLTAGE ADJ
LIMIT
A/D CONVERTER
SELECTOR CTL PULSE GEN
RD PULSE GEN
DECODER
EXTA 1
EXTA 0
EXTA 2
X ADCS
X RD
X WR
V BLK
A-THRU
EXTDB 7
EXTDB 6
EXTDB 5
EXTDB 4
EXTDB 3
EXTDB 2
EXTDB 1
EXTDB 0
AD READY
-5V

AD-39 BLOCK
HDCS-300 (W.W)

DT-18 BLOCK

IC28
SERIAL TO PARALLEL DATA CONVERTER & TEST SIGNAL GENERATOR
IC16~19
DIGITAL DELAY LINE
IC20~23
DATA LATCH
IC10
SERIAL TO PARALLEL DATA CONVERTER & TEST SIGNAL GENERATOR
IC1~4
DIGITAL DELAY LINE
IC5~8
DATA LATCH
IC43
SERIAL TO PARALLEL DATA CONVERTER
IC31~34
DIGITAL DELAY LINE
IC35~38
DATA LATCH
IC24~27
ROM (BLACK GAMMA)
IC9~12
ROM (BLACK GAMMA)
IC39~42
ROM (BLACK GAMMA)
IC30
Y MATRIX & DETAIL MIXER
IC15
Y MATRIX & DETAIL MIXER
IC45
Y MATRIX & DETAIL MIXER
IC29
PARALELL TO SERIAL DATA CONVERTER & DIGITAL BLANKING COMPENSATOR
IC14
PARALELL TO SERIAL DATA CONVERTER & DIGITAL BLANKING COMPENSATOR
IC44
PARALELL TO SERIAL DATA CONVERTER & DIGITAL BLANKING COMPENSATOR
IC50
REGISTRATION ERROR DETECTOR
IC51
RAM
IC46
GATE & BUFF
IC47
TRANS-CEIVER
IC52, 53
I/O CONT
DL1
DELAY
IC55
CLOCK DRIVER
IC54
LINE RECEI-VER
CK
XCK
1/4 CK
X 1/4 CK
CLAMP
SYNC0
SYNC1
V BLK
H BLK
DATA
PIE
CPU W
CPU D

DT-18 BLOCK
HDCS-300 (W. W)

HDCS-300 (W. W)

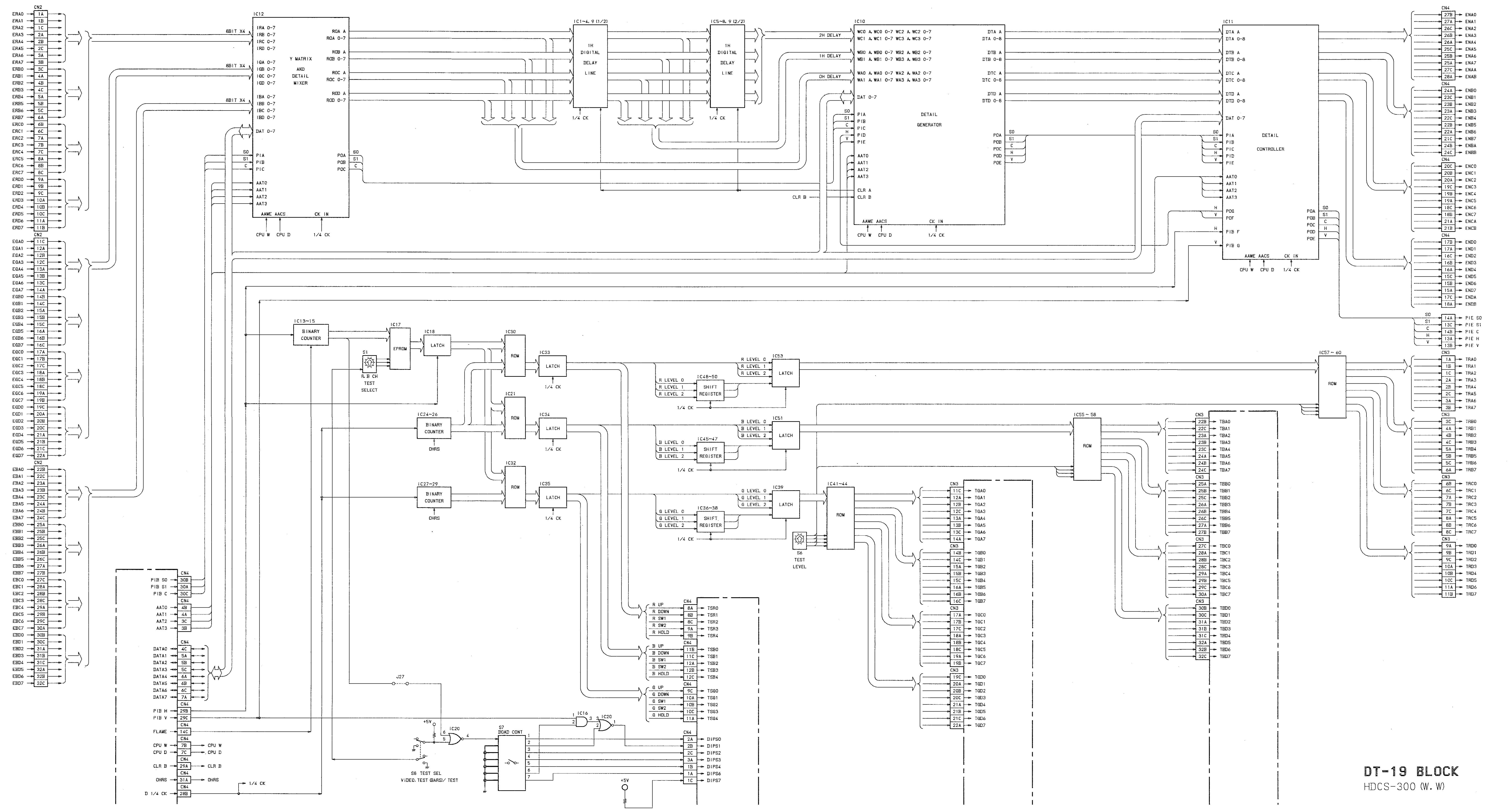
A-17	A-18	A-19	A-20

A | B | C | D | E | F | G | H | I | J | K | L | M

1
2
3
4
5
6

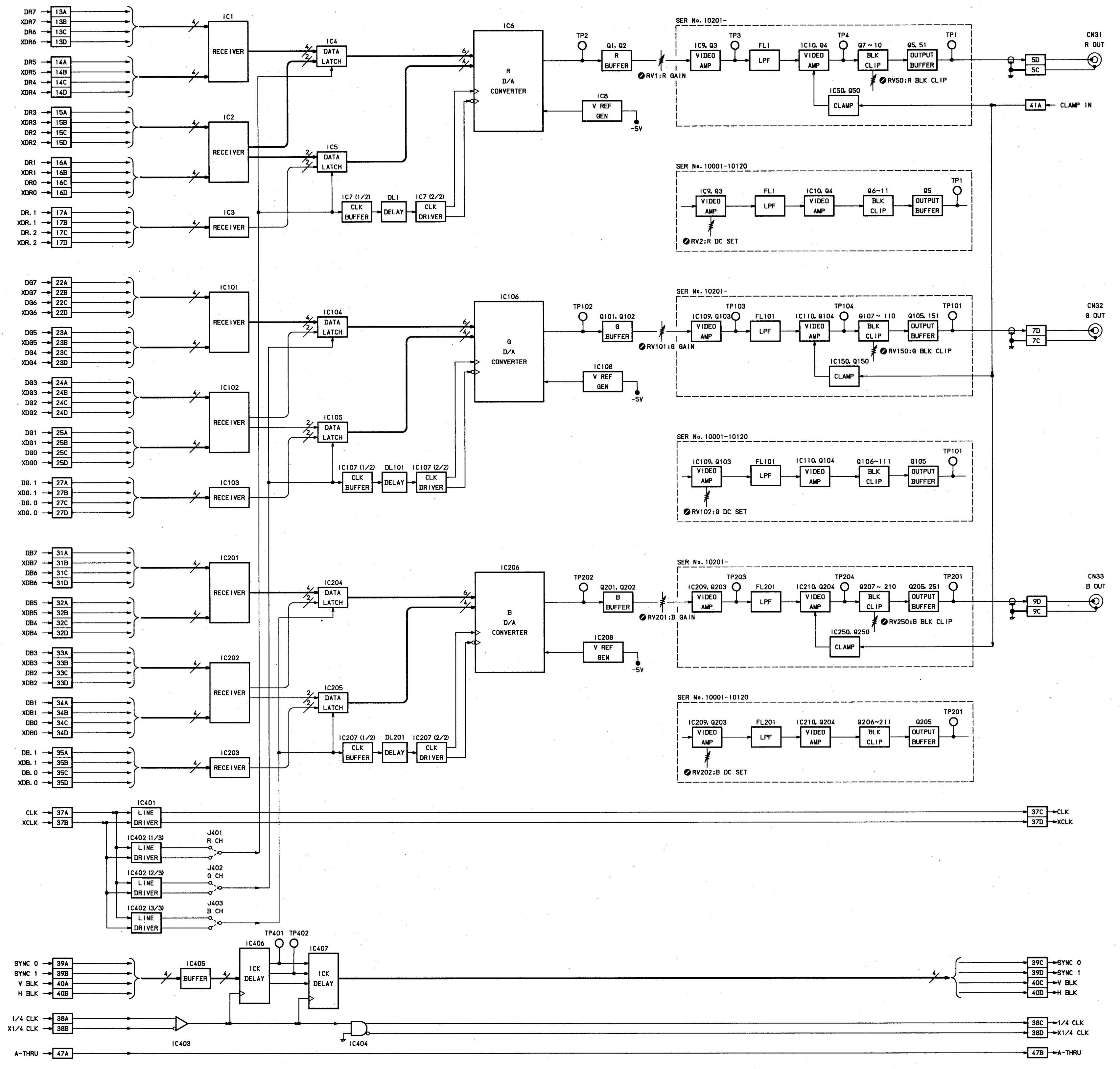
B-HDCS300-DT18BLOCK

DT-19 BLOCK


Y MATRIX AND DETAIL MIXER
1H DIGITAL DELAY LINE
1H DIGITAL DELAY LINE
DETAIL GENERATOR
DETAIL CONTROLLER
BINARY COUNTER
EPROM
LATCH
ROM
SHIFT REGISTER
TEST SELECT
TEST LEVEL
S8 TEST SEL VIDEO,TEST(BARS)/TEST
LOAD CONT
1/4 CK
+5V

DT-19 BLOCK
HDCS-300 (W. W)

DA-29 BLOCK


DR7
XDR7
DR6
XDR6
13A
13B
13C
13D
DR5
XDR5
DR4
XDR4
14A
14B
14C
14D
DR3
XDR3
DR2
XDR2
15A
15B
15C
15D
DR1
XDR1
DR0
XDR0
16A
16B
16C
16D
DR. 1
XDR. 1
DR. 2
XDR. 2
17A
17B
17C
17D
IC1
RECEIVER
IC2
RECEIVER
IC3
RECEIVER
IC4
DATA LATCH
IC5
DATA LATCH
IC7 (1/2)
CLK BUFFER
DL1
DELAY
IC7 (2/2)
CLK DRIVER
IC6
R D/A CONVERTER
IC8
V REF GEN
-5V
TP2
Q1, Q2
R BUFFER
RV1;R GAIN
SER No. 10201-
IC9, Q3
VIDEO AMP
TP3
FL1
LPF
IC10, Q4
VIDEO AMP
TP4
Q7 ~ 10
BLK CLIP
RV50;R BLK CLIP
Q5, 51
OUTPUT BUFFER
TP1
IC50, Q50
CLAMP
5D
5C
CN31
R OUT
41A
CLAMP IN
SER No. 10001-10120
IC9, Q3
VIDEO AMP
RV2;R DC SET
FL1
LPF
IC10, Q4
VIDEO AMP
Q6~11
BLK CLIP
Q5
OUTPUT BUFFER
TP1
DG7
XDG7
DG6
XDG6
22A
22B
22C
22D
DG5
XDG5
DG4
XDG4
23A
23B
23C
23D
DG3
XDG3
DG2
XDG2
24A
24B
24C
24D
DG1
XDG1
DG0
XDG0
25A
25B
25C
25D
DG. 1
XDG. 1
DG. 0
XDG. 0
27A
27B
27C
27D
IC101
RECEIVER
IC102
RECEIVER
IC103
RECEIVER
IC104
DATA LATCH
IC105
DATA LATCH
IC107 (1/2)
CLK BUFFER
DL101
DELAY
IC107 (2/2)
CLK DRIVER
IC106
G D/A CONVERTER
IC108
V REF GEN
-5V
TP102
Q101, Q102
G BUFFER
RV101;G GAIN
SER No. 10201-
IC109, Q103
VIDEO AMP
TP103
FL101
LPF
IC110, Q104
VIDEO AMP
TP104
Q107 ~ 110
BLK CLIP
RV150;G BLK CLIP
Q105, 151
OUTPUT BUFFER
TP101
IC150, Q150
CLAMP
7D
7C
CN32
G OUT
SER No. 10001-10120
IC109, Q103
VIDEO AMP
RV102;G DC SET
FL101
LPF
IC110, Q104
VIDEO AMP
Q106~111
BLK CLIP
Q105
OUTPUT BUFFER
TP101
DB7
XDB7
DB6
XDB6
31A
31B
31C
31D
DB5
XDB5
DB4
XDB4
32A
32B
32C
32D
DB3
XDB3
DB2
XDB2
33A
33B
33C
33D
DB1
XDB1
DB0
XDB0
34A
34B
34C
34D
DB. 1
XDB. 1
DB. 0
XDB. 0
35A
35B
35C
35D
IC201
RECEIVER
IC202
RECEIVER
IC203
RECEIVER
IC204
DATA LATCH
IC205
DATA LATCH
IC207 (1/2)
CLK BUFFER
DL201
DELAY
IC207 (2/2)
CLK DRIVER
IC206
B D/A CONVERTER
IC208
V REF GEN
-5V
TP202
Q201, Q202
B BUFFER
RV201;B GAIN
SER No. 10201-
IC209, Q203
VIDEO AMP
TP203
FL201
LPF
IC210, Q204
VIDEO AMP
TP204
Q207 ~ 210
BLK CLIP
RV250;B BLK CLIP
Q205, 251
OUTPUT BUFFER
TP201
IC250, Q250
CLAMP
9D
9C
CN33
B OUT
SER No. 10001-10120
IC209, Q203
VIDEO AMP
RV202;B DC SET
FL201
LPF
IC210, Q204
VIDEO AMP
Q206~211
BLK CLIP
Q205
OUTPUT BUFFER
TP201
CLK
XCLK
37A
37B
IC401
LINE DRIVER
37C
37D
CLK
XCLK
IC402 (1/3)
LINE DRIVER
J401
R CH
IC402 (2/3)
LINE DRIVER
J402
G CH
IC402 (3/3)
LINE DRIVER
J403
B CH
SYNC 0
SYNC 1
V BLK
H BLK
39A
39B
40A
40B
IC405
BUFFER
IC406
1CK DELAY
TP401
TP402
IC407
1CK DELAY
39C
39D
40C
40D
SYNC 0
SYNC 1
V BLK
H BLK
1/4 CLK
X1/4 CLK
38A
38B
IC403
IC404
38C
38D
1/4 CLK
X1/4 CLK
A-THRU
47A
47B
A-THRU
4
2
6

DA-29 BLOCK
HDCS-300 (W. W)

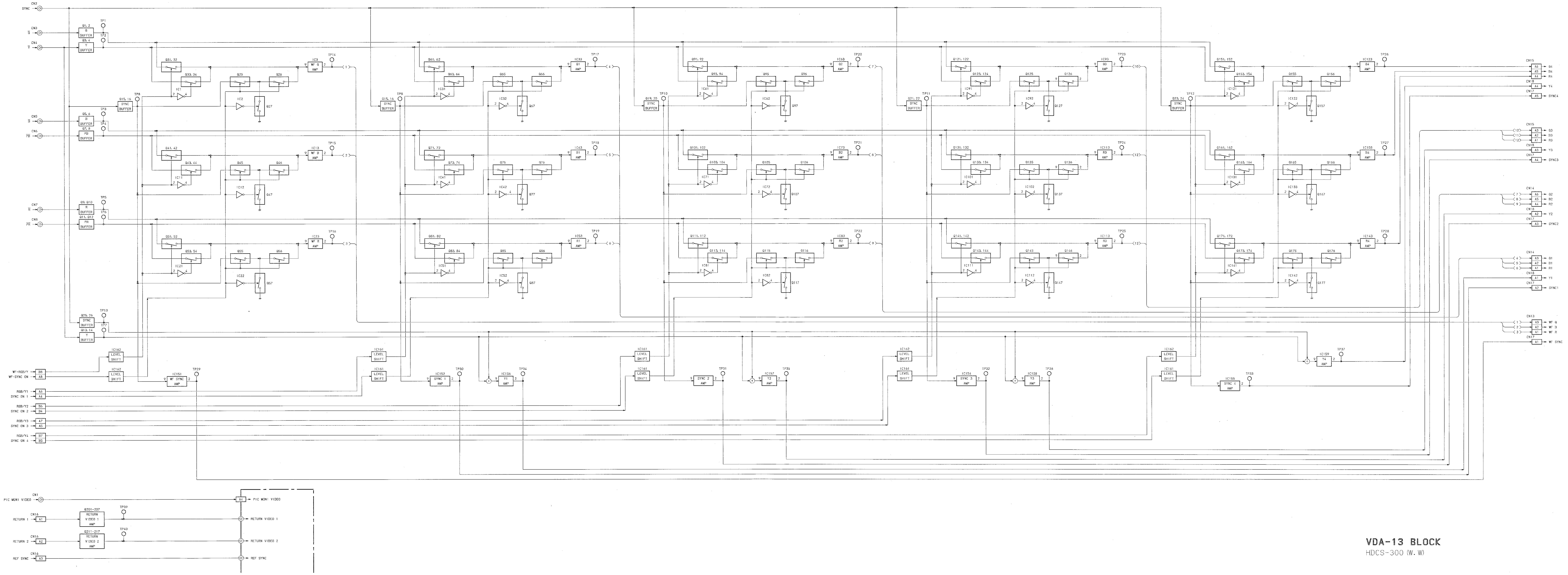
1
2
3
4
5
6

MS-23 BLOCK

1
2
3
4
5
6
CN23 ADV-R IN
CN24 ADV-G IN
CN25 ADV-B IN
R
G
B
9A
8A
15A
14A
21A
20A
Q100 BUFFER
Q101 BUFFER
Q108 BUFFER
Q109 BUFFER
Q116 BUFFER
Q117 BUFFER
Q102, 104
Q103, 105
Q110, 112
Q111, 113
Q118, 120
Q119, 121
Q106 BUFFER
Q114 BUFFER
Q122 BUFFER
RV100 R GAIN
RV101 G GAIN
RV102 B GAIN
IC101 R VIDEO AMP
IC103 G VIDEO AMP
IC105 B VIDEO AMP
IC102 DC AMP
IC104 DC AMP
IC106 DC AMP
Q107 SAMPLE HOLD
Q115 SAMPLE HOLD
Q123 SAMPLE HOLD
CLP
TP100
TP101
TP102
RV103 PR BAL
RV106 PB BAL
IC107 MIX AMP
IC110 MIX AMP
IC113 MIX AMP
RV104 PR GAIN
RV105 Y GAIN
RV107 PB GAIN
IC108 PR VIDEO AMP
IC111 Y VIDEO AMP
IC114 PB VIDEO AMP
IC109 DC AMP
IC112 DC AMP
IC115 DC AMP
Q128 SAMPLE HOLD
Q132 SAMPLE HOLD
Q134 SAMPLE HOLD
TP107
TP108
TP109
Q129 PR BUFFER
Q133 Y BUFFER
Q135 PB BUFFER
Q125 R BUFFER
Q126 G BUFFER
Q127 B BUFFER
Q302~304 NAM
Q305-307 BUFFER
TP302
24D
22D
23D
6D
12D
18B
CN36 PR OUT
CN34 Y OUT
CN35 PB OUT
CN31 R OUT
CN32 G OUT
CN33 B OUT
CN43 RETURN VIDEO 1 IN
CN44 RETURN VIDEO 2 IN
31B
32B
RV300 R-G BAL
RV301 B-G BAL
RV302 R-G SET UP
RV303 B-G SET UP
IC303 MIX AMP
IC304 MIX AMP
Q311, 313 BLACK CLIP
Q312, 314 BLACK CLIP
Q300 BUFFER
Q301 BUFFER
TP300
TP301
Q331, 341
Q332, 342
Q333, 343
Q334, 344
Q335, 345
Q336, 346
Q337, 347
Q338, 348
Q339, 349
Q340, 350
Q317, 324
Q318, 325
Q319, 326
Q320, 327
Q321, 328
Q322, 329
Q323, 330
IC313 VF VIDEO AMP
TP306
IC312 PM VIDEO AMP
TP305
DL11 40ns DELAY
IC701 PM VIDEO AMP
IC702 PM VIDEO AMP
TP703
29D
CN41 PCM MONI OUT
Q703, 704 BUFFER
DL12 30ns DELAY
Q706 BUFFER
Q709 BUFFER
Q707 BUFFER
DL13 30ns DELAY
Q708 BUFFER
Q705 BUFFER
RV701 DTL BAL
IC703 AMP
TP701
Q710-713 CRISPENING
RV702 CLISP
IC704 DATAIL GAIN
IC705 DETAIL GAIN
TP702
IC706 DC AMP
RV703 PEAKING
IC707
30D
CN42 VF OUT
CN26 MIX VIDEO IN
33B
CLAMP
ADV-CLAMP
V BLK
ADV-V BLK
H BLK
ADV-H BLK
41A
41B
40A
40C
40B
40D
IC120
IC121 LEVEL SHIFT
TP105
TP104
IC122
Q124 BUFFER
IC123 BLANKING RE-GEN.
A-THRU
A-THRU
47A
47B
IC302
IC305
IC308
IC314, Q355 Q30, 310 PM MIX VIDEO
IC315, Q356 Q355, 354 VF MIX VIDEO
PM MIX VIDEO ON/OFF
VF MIX VIDEO ON/OFF
IC306
IC307
IC310
IC311
IC305
IC308
IC309
IC4
Q1 LEVEL SHIFT
CN29 SG 1/4 CLK
CN30 XSG 1/4 CLK
CN27 SG CLK IN
CN28 XSG CLK IN
1/4 CLK
X 1/4 CLK
SYNC 1
SYNC 0
ADV SYNC 1
ADV SYNC 0
CLK
XCLK
38A
38B
38C
38D
39B
39A
39D
39C
37A
37B
37C
37D
+5V
IC1
IC2
IC5 SHIFT REGIS-TER
IC6 SHIFT REGIS-TER
IC7 SHIFT REGIS-TER
IC8 SHIFT REGIS-TER
IC10 P-ROM (ENCODER)
IC11 P-ROM (ENCODER)
IC12 D-FF
IC13 D-FF
IC14 P-ROM (TRI-SYNC DATA)
IC15 P-ROM (TRI-SYNC DATA)
IC16 D-FF
IC17 D-FF
IC18 D/A CONVERTER
IC20 REFERENCE VOLTAGE
RV1 SYNC GAIN
IC9
DL1 DELAY
IC21
Q2, 3 BUFFER
IC19 SYNC AMP
FL1 LPF
TP1
Q6, 7 SYNC BUFFER
Q5 SYNC BUFFER
25D
SYNC
CN37 SYNC OUT
+5V S605
IC604
MIX VF
MIX PM
+5V S601
IC602
XBOTH
A1/XB
XCH1
XCH2
XCH3
RECALL 1
RECALL 0
XSTORE
+5V S602
IC603
L/XF
L/X2
X3
X4
RGB3/XY
X OUT
+5V S603
IC604
PM
R
G
B
Y
R-G
B-G
NAM
VF NAM
+5V S604
IC605
VF
RET 1
RET 2
IC601
EXT DB7
EXT DB6
EXT DB5
EXT DB4
EXT DB3
EXT DB2
EXT DB1
EXT DB0
45A
45B
45C
45D
46A
46B
46C
46D
DIR
EN
IC606
IC610
IC611
IC109 4 TO 16 LINE DECODER
EXT A7
EXT A6
EXT A5
EXT A4
EXT A3
EXT A2
EXT A1
EXT A0
43A
43B
43C
43D
44A
44B
44C
44D
IC608
EN1
EN2
X ADCS
X WR
X RD
42B
42D
42C
IC612 LATCH
IC613 LATCH
IC614 LATCH
IC615 LATCH
IC616
IC607
S5 REMOTE LOCAL
IC617
34A X BOTH
34B A/XB
34C CH1 XON
34D CH2 XON
35A CH3 XON
35B RECALL 1
35C RECALL 0
35D X STORE
IC618
36A LINE/XFIELD
36B ONE/XTWO
36C XTHREE
41C XFOUR
6B RGB/XY
41D REMOTE SYNC XENB
S11-15, 21-24
4A SYNC ON 1
4B SYNC ON 2
4C SYNC ON 3
4D SYNC ON 4
6A WFM SYNC ON
5A RGB/Y 1
5B RGB/Y 2
5C RGB/Y 3
5D RGB/Y 4
A
B
C
D
E
F
G
H
I
J
K
L
M

MS-23 BLOCK
HDCS-300 (W. W)

VDA-13 BLOCK


CN2
SYNC
CN3
G
CN4
Y
Q1, 2
G BUFFER
Q3, 4
Y BUFFER
TP1
TP2
Q15, 16
SYNC BUFFER
TP8
CN5
B
CN6
PB
Q5, 6
B BUFFER
Q7, 8
PB BUFFER
TP3
TP4
CN7
R
CN8
PR
Q9, Q10
R BUFFER
Q11, Q12
PR BUFFER
TP5
TP6
Q25, 26
SYNC BUFFER
Q13, 14
Y BUFFER
TP13
TP7
Q31, 32
Q41, 42
Q51, 52
IC1
IC11
IC21
IC162
LEVEL SHIFT
WF-RGB/Y
WF-SYNC ON
B8
A8
IC151
WF SYNC AMP
TP29
RGB/Y1
SYNC ON 1
A6
A4
RGB/Y2
SYNC ON 2
B6
B4
RGB/Y3
SYNC ON 3
A7
A5
RGB/Y4
SYNC ON 4
B7
B5
CN1
PIC MONI VIDEO
A4
PIC MONI VIDEO
CN16
RETURN 1
A1
Q201-207
RETURN VIDEO 1 AMP
TP39
RETURN VIDEO 1
CN16
RETURN 2
A2
Q211-217
RETURN VIDEO 2 AMP
TP40
RETURN VIDEO 2
CN16
REF SYNC
A3
REF SYNC
CN15
A6 G4
A5 B4
A4 R4
CN18
A4 Y4
CN17
A5 SYNC4
CN15
(10) A3 G3
(11) A2 B3
(12) A1 R3
CN18
A3 Y3
CN17
A4 SYNC3
CN14
(7) A6 G2
(8) A5 B2
(9) A4 R2
CN18
A2 Y2
CN17
A3 SYNC2
CN14
(4) A3 G1
(5) A2 B1
(6) A1 R1
CN18
A1 Y1
CN17
A2 SYNC1
CN13
(1) A3 WF G
(2) A2 WF B
(3) A1 WF R
CN17
A1 WF SYNC

1

2

3

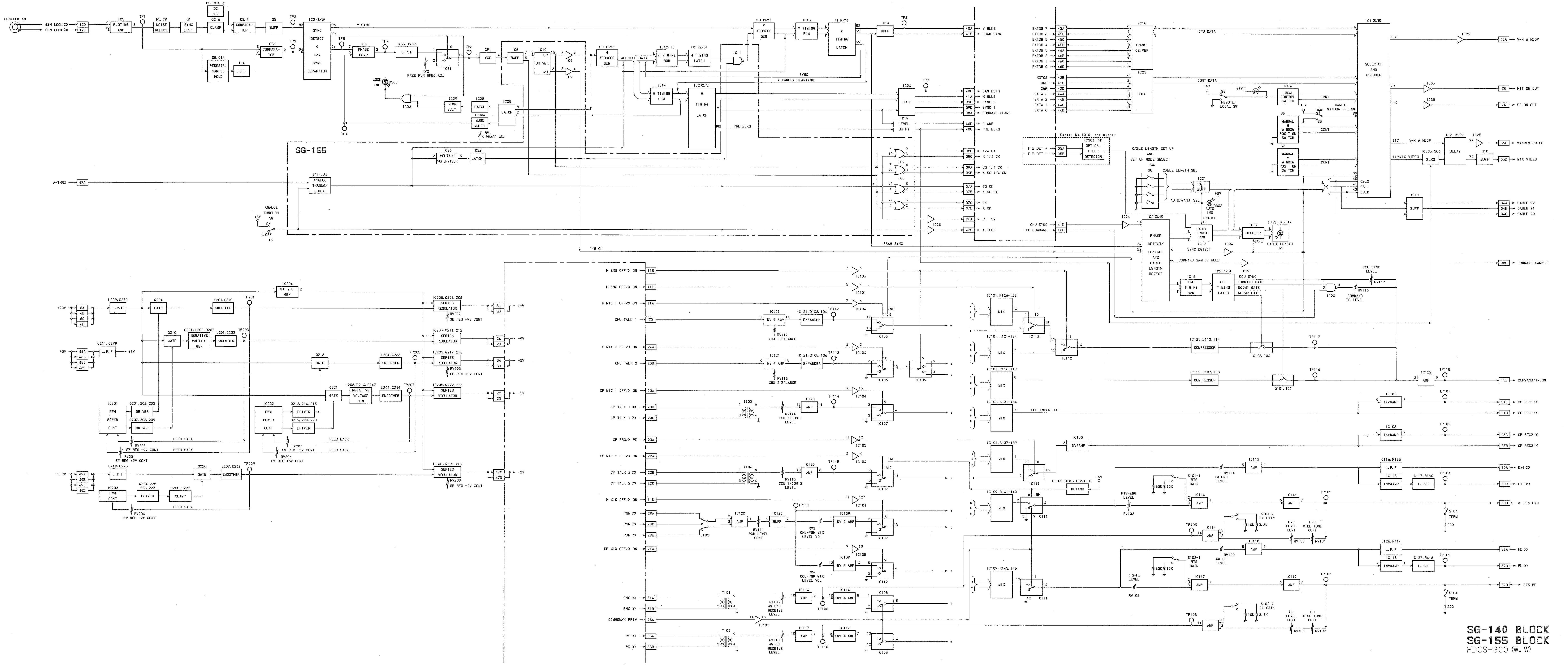
4

5

6

VDA-13 BLOCK
HDCS-300 (W.W)

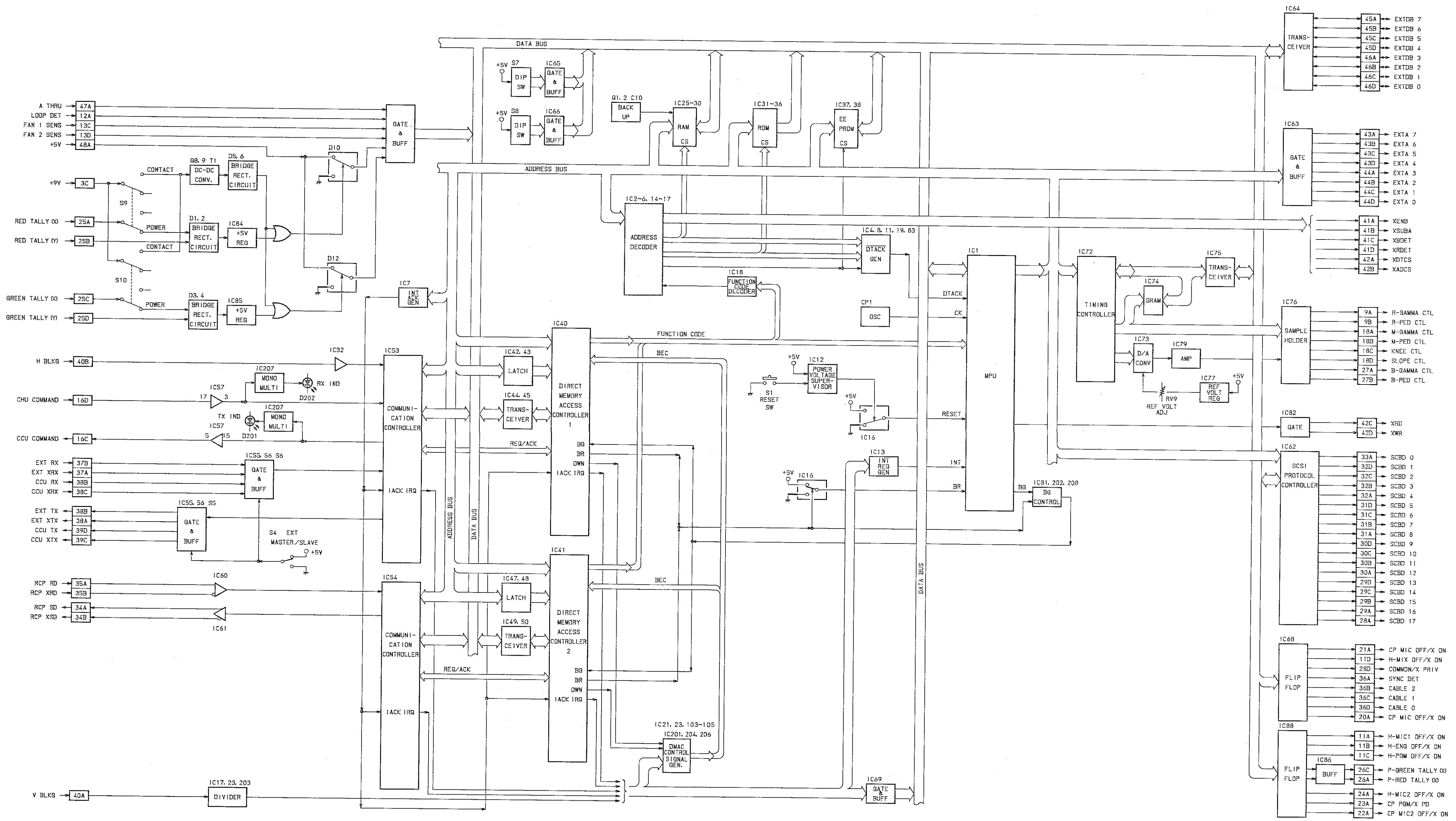
SG-140/155 BLOCK



GENLOCK IN
SG-155
V SYNC
SYNC DETECT & H/V SYNC SEPARATOR
PHASE COMP
L.P.F
VCO
FREE RUN FREQ. ADJ
H PHASE ADJ
MONO MULTI
LATCH
H ADDRESS GEN
ADDRESS DATA
H TIMING ROM
H TIMING LATCH
V ADDRESS GEN
V TIMING ROM
V TIMING LATCH
Y SYNC
Y CAMERA BLANKING
PRE BLKG
FRAM SYNC
LEVEL SHIFT
BUFF
VOLTAGE SUPERVISION
ANALOG THROUGH LOGIC
A-THRU
ANALOG THROUGH SW
CAM BLKG
V BLKG
SYNC O
SYNC I
COMMAND CLAMP
CLAMP
PRE BLKG
1/4 CK
X 1/4 CK
SG 1/4 CK
X SG 1/4 CK
SG CK
X SG CK
CK
X CK
DT -5V
A-THRU
TRANS-CEIVER
CPU DATA
CONT DATA
REMOTE/LOCAL SW
LOCAL CONTROL SWITCH
MANUAL WINDOW SEL SW
MANUAL WINDOW POSITION SWITCH
SELECTOR AND DECODER
V-H WINDOW
HIT ON OUT
DC ON OUT
WINDOW PULSE
MIX VIDEO
DELAY
OPTICAL FIBER DETECTOR
CABLE LENGTH SET UP AND SET UP MODE SELECT SW
CABLE LENGTH SEL
AUTO/MANU SEL
PHASE DETECT/CONTROL AND CABLE LENGTH DETECT
CABLE LENGTH ROM
DECODER
CABLE LENGTH IND
CHU SYNC
CCU COMMAND
SYNC DETECT
COMMAND SAMPLE HOLD
COMMAND SAMPLE
CHU TIMING ROM
CHU TIMING LATCH
COMMAND GATE
INCOM1 GATE
INCOM2 GATE
CCU SYNC LEVEL
COMMAND DC LEVEL
CABLE 02
CABLE 01
CABLE 00
+20V
+5V
-5.2V
L.P.F
GATE
SMOOTHER
NEGATIVE VOLTAGE GEN
REF VOLT GEN
SERIES REGULATOR
PWM POWER CONT
DRIVER
FEED BACK
SW REG +9V CONT
SW REG -5V CONT
SW REG +5V CONT
SW REG -2V CONT
DC REG +9V CONT
DC REG +5V CONT
DC REG -2V CONT
+9V
+5V
-5V
-2V
H ENG OFF/X ON
H PRO OFF/X ON
H MIC 1 OFF/X ON
CHU TALK 1
H MIX 2 OFF/X ON
CHU TALK 2
CP MIC 1 OFF/X ON
CP TALK 1 (0)
CP TALK 1 (1)
CP PRG/X PD
CP MIC 2 OFF/X ON
CP TALK 2 (0)
CP TALK 2 (1)
H MIC OFF/X ON
PGM (0)
PGM (1)
CP MIX OFF/X ON
ENG (0)
ENG (1)
COMMON/X PRIV
PD (0)
PD (1)
INV R AMP
EXPANDER
CHU 1 BALANCE
CHU 2 BALANCE
CCU INCOM 1 LEVEL
CCU INCOM 2 LEVEL
PGM LEVEL CONT
CHU-PGM MIX LEVEL VOL
CCU-PGM MIX LEVEL VOL
4W ENG RECEIVE LEVEL
4W PD RECEIVE LEVEL
MIX
COMPRESSOR
COMMAND/INCOM
CCU INCOM OUT
INV/AMP
CP REC1 (0)
CP REC1 (1)
CP REC2 (0)
CP REC2 (1)
MUTING
RTS-ENG LEVEL
RTS GAIN
4W-ENG LEVEL
CC GAIN
ENG LEVEL CONT
ENG SIDE TONE CONT
TERM
ENG (0)
ENG (1)
RTS ENG
RTS-PD LEVEL
4W-PD LEVEL
PD LEVEL CONT
PD SIDE TONE CONT
PD (0)
PD (1)
RTS PD

SG-140 BLOCK
SG-155 BLOCK
HDCS-300 (W. W)

IF-212 BLOCK


DATA BUS
ADDRESS BUS
A THRU 47A
LOOP DET 12A
FAN 1 SENS 13C
FAN 2 SENS 13D
+5V 48A
GATE & BUFF
D10
+9V 3C
CONTACT
Q8, 9 T1
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D5, 6
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S9
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POWER
CONTACT
D1, 2
BRIDGE RECT. CIRCUIT
IC84
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D12
S10
GREEN TALLY (X) 25C
GREEN TALLY (Y) 25D
POWER
D3, 4
BRIDGE RECT. CIRCUIT
IC85
+5V REG
IC7
INT ACK GEN
H BLKG 40B
IC32
IC53
IC207
MONO MULTI
RX IND
D202
CHU COMMAND 16D
IC57
17
3
TX IND
IC207
MONO MULTI
IC57
D201
CCU COMMAND 16C
5
15
COMMUNI-CATION CONTROLLER
IACK IRQ
EXT RX 37B
EXT XRX 37A
CCU RX 38B
CCU XRX 38C
IC55, 56 S6
GATE & BUFF
EXT TX 38B
EXT XTX 38A
CCU TX 39D
CCU XTX 39C
IC55, 56 S5
GATE & BUFF
S4 EXT MASTER/SLAVE
+5V
RCP RD 35A
RCP XRD 35B
RCP SD 34A
RCP XSD 34B
IC60
IC61
IC54
COMMUNI-CATION CONTROLLER
IACK IRQ
V BLKG 40A
IC17, 23, 203
DIVIDER
ADDRESS BUS
DATA BUS
+5V S7
DIP SW
IC65
GATE & BUFF
+5V S8
DIP SW
IC66
GATE & BUFF
Q1, 2 C10
BACK UP
IC25~30
RAM
CS
IC31~36
ROM
CS
IC37, 38
EE PROM
CS
IC2~6, 14~17
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DTACK GEN
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FUNCTION CODE DECODER
CP1
OSC
IC40
FUNCTION CODE
BEC
IC42, 43
LATCH
IC44, 45
TRANS-CEIVER
DIRECT MEMORY ACCESS CONTROLLER 1
REQ/ACK
BG
BR
OWN
IACK IRQ
+5V
IC12
POWER VOLTAGE SUPER-VISOR
S1 RESET SW
+5V
IC16
+5V
IC16
IC13
INT REQ GEN
IC41
BEC
IC47, 48
LATCH
IC49, 50
TRANS-CEIVER
DIRECT MEMORY ACCESS CONTROLLER 2
REQ/ACK
BG
BR
OWN
IACK IRQ
IC21, 23, 103~105
IC201, 204, 206
DMAC CONTROL SIGNAL GEN.
IC69
GATE & BUFF
DATA BUS
IC1
MPU
DTACK
CK
RESET
INT
BR
BG
IC81, 202, 208
BG CONTROL
IC72
TIMING CONTROLLER
IC74
SRAM
IC75
TRANS-CEIVER
IC73
D/A CONV
IC79
AMP
IC77
REF VOLT REG
+5V
RV9
REF VOLT ADJ
IC64
TRANS-CEIVER
45A EXTDB 7
45B EXTDB 6
45C EXTDB 5
45D EXTDB 4
46A EXTDB 3
46B EXTDB 2
46C EXTDB 1
46D EXTDB 0
IC63
GATE & BUFF
43A EXTA 7
43B EXTA 6
43C EXTA 5
43D EXTA 4
44A EXTA 3
44B EXTA 2
44C EXTA 1
44D EXTA 0
41A XENB
41B XSUBA
41C XBDET
41D XRDET
42A XDTCS
42B XADCS
IC76
SAMPLE HOLDER
9A R-GAMMA CTL
9B R-PED CTL
18A M-GAMMA CTL
18B M-PED CTL
18C KNEE CTL
18D SLOPE CTL
27A B-GAMMA CTL
27B B-PED CTL
IC82
GATE
42C XRD
42D XWR
IC62
SCSI PROTOCOL CONTROLLER
33A SCBD 0
32D SCBD 1
32C SCBD 2
32B SCBD 3
32A SCBD 4
31D SCBD 5
31C SCBD 6
31B SCBD 7
31A SCBD 8
30D SCBD 9
30C SCBD 10
30B SCBD 11
30A SCBD 12
29D SCBD 13
29C SCBD 14
29B SCBD 15
29A SCBD 16
28A SCBD 17
IC68
FLIP FLOP
21A CP MIC OFF/X ON
11D H-MIX OFF/X ON
28D COMMON/X PRIV
36A SYNC DET
36B CABLE 2
36C CABLE 1
36D CABLE 0
20A CP MIC OFF/X ON
IC88
FLIP FLOP
11A H-MIC1 OFF/X ON
11B H-ENG OFF/X ON
11C H-PGM OFF/X ON
IC86
BUFF
26C P-GREEN TALLY (X)
26A P-RED TALLY (X)
24A H-MIC2 OFF/X ON
23A CP PGM/X PD
22A CP MIC2 OFF/X ON

IF-212 BLOCK
HDCS-300 (W. W)

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

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1S2837	B-2
1SS123	B-2
1SS97-1	B-2
2SA1005	B-2
2SA1122	B-2
2SA1162	B-2
2SA1175	B-2
2SA1226	B-2
2SA1244LB	B-2
2SA1461	B-2
2SA1462	B-2
2SA733-K	B-2
2SC2668	B-2
2SC2714	B-2
2SC2785	B-2
2SC3074LB	B-2
2SC3734	B-2
2SC3735	B-2
2SC641K	B-2
2SD774	B-2
2SJ122	B-2
2SK972	B-2
3SK163	B-2
AD580MH	B-3
AD7545JN	B-3
AD7576JN	B-3
AM26LS31CN	B-3
AM26LS32ACN	B-3
BH1253	B-3
BX1179	B-3
BX1190	B-4
BX1229	B-4
CX20116	B-4
CX20116A	B-4
CX20201A-1	B-4
CX20201A-3	B-5
CX23065	B-5
CXB1013G	B-6
CXB1014G	B-7
CXD1348G	B-8
CXD1349G	B-10
CXD1350G	B-12
CXD1351M	B-13
CXD1353M	B-14
CXD1354M	B-15
CXD1359M	B-16
CXK1202S	B-16
CXK5816M-15L	B-17
CXK58257M-12L	B-17
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ERC81-004	B-2
ERC84-009	B-2
GL107R12	B-2
HD10101	B-17
HD10116	B-18
HD10124	B-18
HD10125	B-18
HD10136	B-18
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HDVA-1	B-20
HSM88AS	B-2
MB7114L	B-21
MB81C78A-45P	B-21
MB84256-12LL	B-21
MB89352PFQ	B-21
MBM27C128-20TV	B-22
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MC10101L	B-17
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MC10115L	B-24
MC10116L	B-18
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MC10H101L	B-17
MC10H103L	B-23
MC10H115L	B-24
MC10H116L	B-18
MC10H124L	B-18
MC10H131L	B-24
MC10H141L	B-24
MC10H158L	B-24
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MC14051BF	B-25
MC14053BF	B-25
MC14081BF	B-25
MC14504BCP	B-25
MC14504BF	B-25
MC14528BF	B-25
MC14532BF	B-26
MC1495M	B-26
MC34184M	B-26
MC74F163AM	B-26
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NJM78L ? ?A	B-27
OP-07CPS	B-27
OP-07DPS	B-27
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PS2703-1	B-2
RC1496M	B-27
RD ? ?EB ?	B-2
RD ? ?EL ?	B-2
RD ? ?ESB ?	B-2
RD ? ?MB ?	B-2
SB60-05H	B-2
SCN68562C4N48	B-28
SN74HC00NS	B-29
SN74HC02NS	B-29
SN74HC04NS	B-29
SN74HC08NS	B-29
SN74HC10NS	B-29
SN74HC125NS	B-29
SN74HC126NS	B-29
SN74HC138NS	B-29
SN74HC139NS	B-30
SN74HC148NS	B-30
SN74HC154NS	B-30
SN74HC161NS	B-30
SN74HC164NS	B-31
SN74HC175NS	B-31
SN74HC20NS	B-31
SN74HC244NS	B-31
SN74HC245NS	B-31
SN74HC30NS	B-31
SN74HC32NS	B-31
SN74HC365NS	B-31
SN74HC373NS	B-32
SN74HC374NS	B-32
SN74HC74NS	B-32
SN74HC85NS	B-32
SN74HC86NS	B-32
SN74LS05NS	B-32
SN74LS07NS	B-32
SN74LS137NS	B-33
SN74LS164NS	B-33
SN74LS174NS	B-33
SN74LS244NS	B-33
SN74LS32NS	B-33
SN74S02NS	B-33
SN74S04NS	B-33
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TA78L005AP	B-34
TC4028BF	B-25
TC4049BF	B-34
TC4051BF	B-25
TC4053BF	B-25
TC4053BFHB	B-25
TC4081BF	B-25
TC4528BF	B-25
TC40H000F	B-34
TC40H002F	B-34
TC40H004F	B-34
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TC40H010F	B-34
TC40H021F	B-34
TC40H032F	B-34
TC40H074F	B-35
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TC74HC20F	B-31
TC74HC221F	B-36
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TC74HC30F	B-31
TC74HC32F	B-31
TC74HC365F	B-31
TC74HC373F	B-32
TC74HC374F	B-32
TC74HC374P	B-32
TC74HC74F	B-32
TC74HC85F	B-32
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LG124A	B-2
U05G	B-2
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uPC393G2	B-37
uPC4062G2	B-37
uPC4064G	B-37
uPD28C64C-25	B-38
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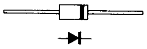
WS57C49B-35T	B-38

DIODE, TRANSISTOR



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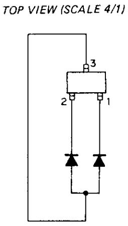
TOP VIEW (SCALE 4/1)
3
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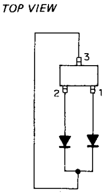
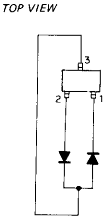
1

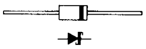
1S2836


TOP VIEW
3
2
1

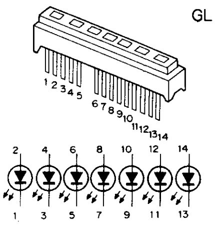
1S2837


TOP VIEW
3
2
1

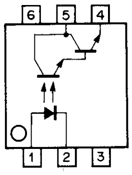
1SS123
HSM88AS



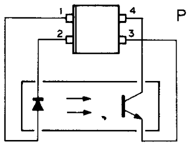
1SS97-1
ERB81-004
ERC81-004
ERC84-009


1 2 3 4 5
6 7 8 9 10
11 12 13 14
2 4 6 8 10 12 14
1 3 5 7 9 11 13

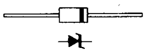
GL107R12 ; RED



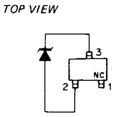
PS2002B (NEC)
PHOTO COUPLER
– TOP VIEW –



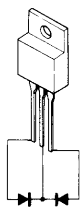
PS2703-1



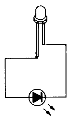
RD ? ?EB ?
RD ? ?EL ?
RD ? ?ESB ?


TOP VIEW
3
NC
2
1

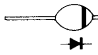
RD ? ?MB ?



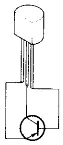
SB60-05H



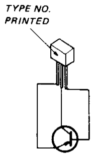
TLG124A ; GREEN
TLR124 ; RED



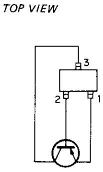
U05G



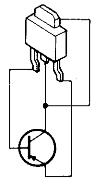
2SA1005
2SA733-K


TYPE NO. PRINTED

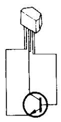
2SA1175


TOP VIEW
3
2
1

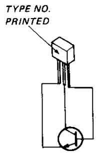
2SA1122
2SA1162
2SA1226
2SA1461
2SA1462



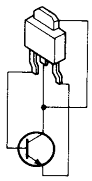
2SA1244LB



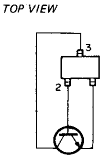
2SC2668


TYPE NO. PRINTED

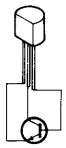
2SC2785



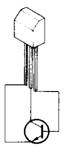
2SC3074LB


TOP VIEW
3
2
1

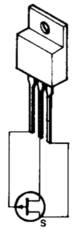
2SC2714
2SC3734
2SC3735



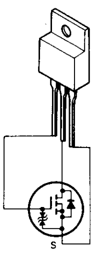
2SC641K



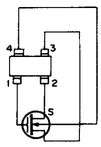
2SD774



2SJ122



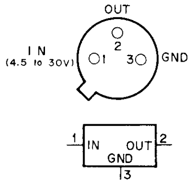
2SK972



3SK163

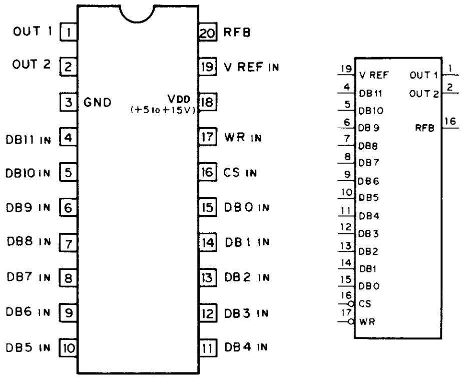
AD580MH (ANALOG DEVICES)

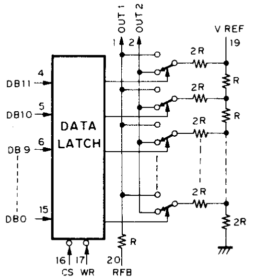
REFERENCE VOLTAGE GENERATOR (2.5V)
- BOTTOM VIEW -


OUT
2
I N
(4.5 to 30V)
1
3
GND
1
IN
OUT
GND
2
3

AD7545JN (ANALOG DEVICES)

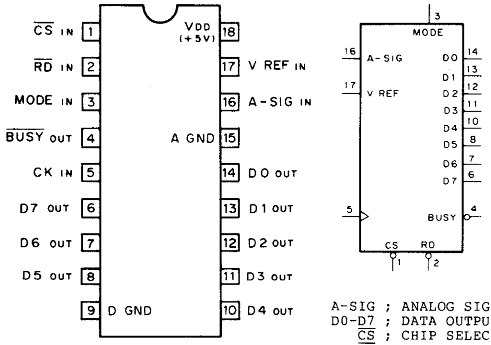
C-MOS 12-BIT BUFFERED MULTIPLYING D/A CONVERTOR
- TOP VIEW -


OUT 1 1
OUT 2 2
3 GND
DB11 IN 4
DB10 IN 5
DB9 IN 6
DB8 IN 7
DB7 IN 8
DB6 IN 9
DB5 IN 10
20 RFB
19 V REF IN
VDD (+5 to +15V) 18
17 WR IN
16 CS IN
15 DB0 IN
14 DB1 IN
13 DB2 IN
12 DB3 IN
11 DB4 IN
19 V REF
4 DB11
5 DB10
6 DB9
7 DB8
8 DB7
9 DB6
10 DB5
11 DB4
12 DB3
13 DB2
14 DB1
15 DB0
16 CS
17 WR
OUT 1 1
OUT 2 2
RFB 16

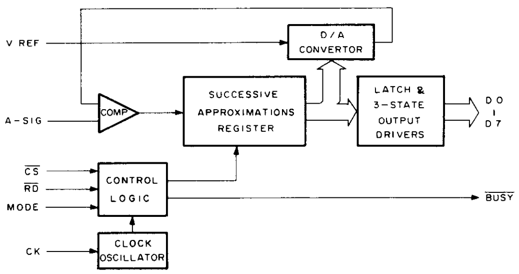

OUT 1
OUT 2
1
2
V REF
19
DB11 4
DB10 5
DB9 6
DB0 15
DATA LATCH
2R
R
2R
R
2R
2R
2R
R
16
17
20
CS
WR
RFB

AD7576JN (ANALOG DEVICES)

C-MOS 8-BIT A/D CONVERTER WITH SUCCESSIVE COMPARISON
- TOP VIEW -

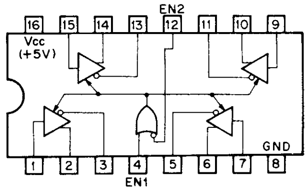

CS IN 1
RD IN 2
MODE IN 3
BUSY OUT 4
CK IN 5
D7 OUT 6
D6 OUT 7
D5 OUT 8
9 D GND
VDD (+5V) 18
17 V REF IN
16 A-SIG IN
A GND 15
14 D0 OUT
13 D1 OUT
12 D2 OUT
11 D3 OUT
10 D4 OUT
3
MODE
16 A-SIG
17 V REF
D0 14
D1 13
D2 12
D3 11
D4 10
D5 8
D6 7
D7 6
5
BUSY 4
CS 1
RD 2

A-SIG ; ANALOG SIGNAL INPUT
D0-D7 ; DATA OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ ENABLE INPUT


V REF
D/A CONVERTOR
A-SIG
COMP
SUCCESSIVE APPROXIMATIONS REGISTER
LATCH & 3-STATE OUTPUT DRIVERS
D0
D7
CS
RD
MODE
CONTROL LOGIC
BUSY
CK
CLOCK OSCILLATOR

AM26LS31CN (TI)

HIGH SPEED DIFFERENTIAL LINE DRIVER
- TOP VIEW -


EN2
16
15
14
13
12
11
10
9
Vcc
(+5V)
GND
1
2
3
4
5
6
7
8
EN1

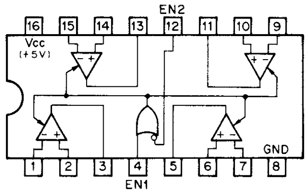
FUNCTION TABLE

EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

AM26LS32ACN (TI)

HIGH SPEED DIFFERENTIAL LINE RECEIVER
- TOP VIEW -


EN2
16
15
14
13
12
11
10
9
Vcc
(+5V)
GND
1
2
3
4
5
6
7
8
EN1

FUNCTION TABLE

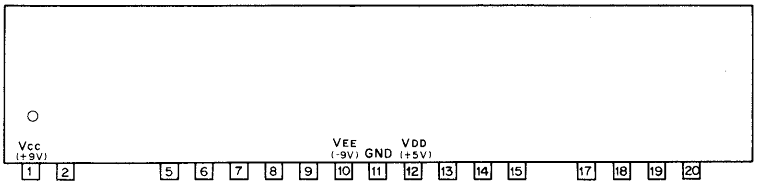
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

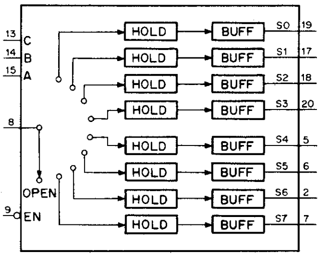
BH1253 (SONY)
BX1179 (SONY)

8-CHANNEL SELECTABLE SAMPLING HOLDER
- PRINTED SIDE -


Vcc
(+9V)
VEE
(-9V)
GND
VDD
(+5V)
1
2
5
6
7
8
9
10
11
12
13
14
15
17
18
19
20

EN	C	B	A	"ON" CHANNEL
0	0	0	0	S0
0	0	0	1	S1
0	0	1	0	S2
0	0	1	1	S3
0	1	0	0	S4
0	1	0	1	S5
0	1	1	0	S6
0	1	1	1	S7
1	X	X	X	OPEN

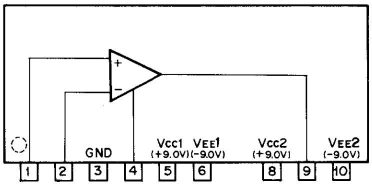
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE


13 C
14 B
15 A
8
OPEN
9 EN
HOLD
BUFF
S0 19
S1 17
S2 18
S3 20
S4 5
S5 6
S6 2
S7 7

BX1190 (SONY)

VIDEO AMPLIFIER

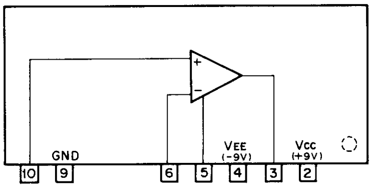
– REAR VIEW –


+
−
GND
Vcc1 (+9.0V)
VEE1 (−9.0V)
Vcc2 (+9.0V)
VEE2 (−9.0V)
1
2
3
4
5
6
8
9
10

BX1229 (SONY)

FLOATING INPUT VIDEO AMPLIFIER

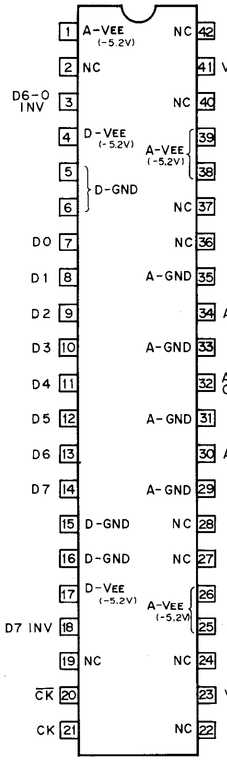
– REAR VIEW –

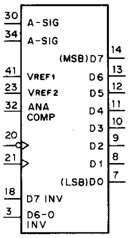

+
−
GND
VEE (−9V)
Vcc (+9V)
10
9
6
5
4
3
2

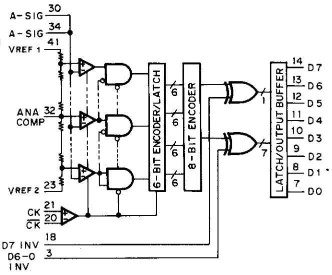
CX20116 (SONY)
CX20116A (SONY)

8-BIT A/D CONVERTER

– TOP VIEW –


1 A-VEE (−5.2V)
2 NC
D6-0 INV 3
4 D-VEE (−5.2V)
5 D-GND
6
D0 7
D1 8
D2 9
D3 10
D4 11
D5 12
D6 13
D7 14
15 D-GND
16 D-GND
17 D-VEE (−5.2V)
D7 INV 18
19 NC
CK̄ 20
CK 21
NC 42
41 VREF1 (0V)
NC 40
A-VEE (−5.2V) 39
38
NC 37
NC 36
A-GND 35
34 A-SIG IN
A-GND 33
32 ANA COMP
A-GND 31
30 A-SIG IN
A-GND 29
NC 28
NC 27
A-VEE (−5.2V) 26
25
NC 24
23 VREF2 (−2V)
NC 22

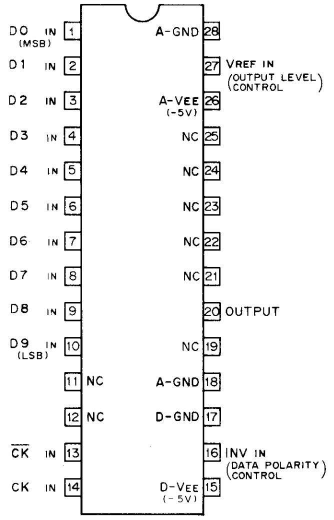

30 A-SIG
34 A-SIG
41 VREF1
23 VREF2
32 ANA COMP
20
21
18 D7 INV
3 D6-0 INV
(MSB) D7 14
D6 13
D5 12
D4 11
D3 10
D2 9
D1 8
(LSB) D0 7

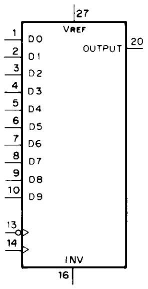

A-SIG 30
A-SIG 34
VREF 1 41
ANA COMP 32
VREF 2 23
CK 21
CK̄ 20
D7 INV 18
D6-0 INV 3
6-BIT ENCODER/LATCH
8-BIT ENCODER
6
6
LATCH/OUTPUT BUFFER
1
7
14 D7
13 D6
12 D5
11 D4
10 D3
9 D2
8 D1
7 D0

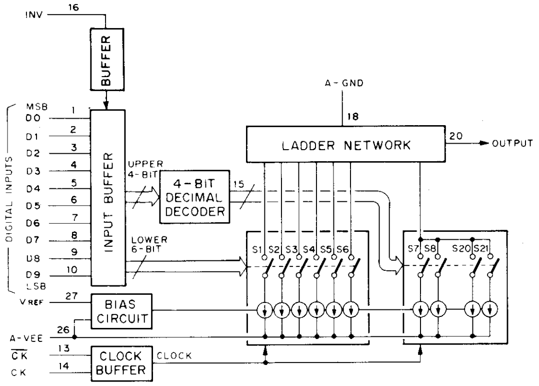
CX20201A-1 (SONY) FLAT PACKAGE

ECL-10-BIT D/A CONVERTER

– TOP VIEW –


D0 (MSB) IN 1
D1 IN 2
D2 IN 3
D3 IN 4
D4 IN 5
D5 IN 6
D6 IN 7
D7 IN 8
D8 IN 9
D9 (LSB) IN 10
11 NC
12 NC
CK̄ IN 13
CK IN 14
A-GND 28
27 VREF IN (OUTPUT LEVEL CONTROL)
A-VEE (−5V) 26
NC 25
NC 24
NC 23
NC 22
NC 21
20 OUTPUT
NC 19
A-GND 18
D-GND 17
16 INV IN (DATA POLARITY CONTROL)
D-VEE (−5V) 15


27
VREF
OUTPUT 20
1 D0
2 D1
3 D2
4 D3
5 D4
6 D5
7 D6
8 D7
9 D8
10 D9
13
14
INV
16


INV 16
BUFFER
A-GND
18
MSB D0 1
D1 2
D2 3
D3 4
D4 5
D5 6
D6 7
D7 8
D8 9
D9 10
LSB
DIGITAL INPUTS
INPUT BUFFER
UPPER 4-BIT
4-BIT DECIMAL DECODER
15
LOWER 6-BIT
LADDER NETWORK
20 OUTPUT
S1 S2 S3 S4 S5 S6
S7 S8 S20 S21
VREF 27
BIAS CIRCUIT
A-VEE 26
CK̄ 13
CK 14
CLOCK BUFFER
CLOCK

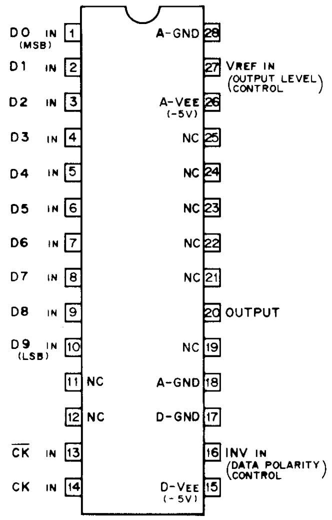
INV SELECTION

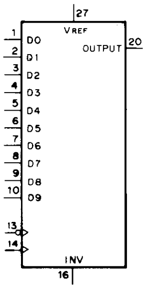
DATA INPUTS										OUTPUT	
D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	INV "0"	INV "1"
0	0	0	0	0	0	0	0	0	0	Vo(OS)	Vo(OS) −1.000V
0	0	0	0	0	0	0	0	0	1	Vo(OS) − 0.001V	Vo(OS) −0.999V
0	0	0	0	0	0	0	0	1	0	Vo(OS) − 0.002V	Vo(OS) −0.998V
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
0	1	1	1	1	1	1	1	1	1	Vo(OS) − 0.500V	Vo(OS) − 0.502V
1	0	0	0	0	0	0	0	0	0	Vo(OS) − 0.501V	Vo(OS) − 0.501V
1	0	0	0	0	0	0	0	0	1	Vo(OS) − 0.502V	Vo(OS) − 0.500V
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	1	1	1	1	1	1	Vo(OS) −1.000V	Vo(OS)

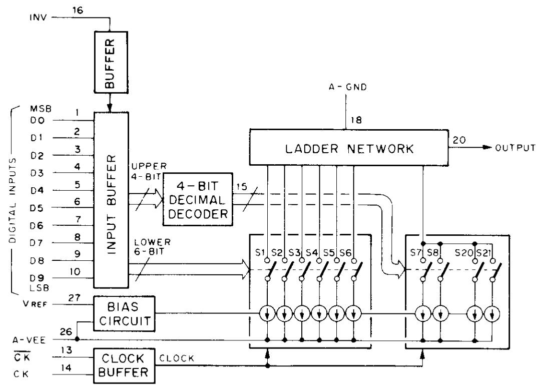
1 ; ECL HIGH LEVEL
0 ; ECL LOW LEVEL
Vo(OS); ZERO OFFSET

CX20201A-3 (SONY) FLAT PACKAGE

ECL-8-BIT D/A CONVERTER
- TOP VIEW -


D0 IN 1 (MSB)
D1 IN 2
D2 IN 3
D3 IN 4
D4 IN 5
D5 IN 6
D6 IN 7
D7 IN 8
D8 IN 9
D9 IN 10 (LSB)
11 NC
12 NC
CK IN 13
CK IN 14
28 A-GND
27 VREF IN (OUTPUT LEVEL CONTROL)
26 A-VEE (-5V)
25 NC
24 NC
23 NC
22 NC
21 NC
20 OUTPUT
19 NC
18 A-GND
17 D-GND
16 INV IN (DATA POLARITY CONTROL)
15 D-VEE (-5V)


27
VREF
OUTPUT
20
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
INV
16


INV
16
BUFFER
DIGITAL INPUTS
MSB D0
D1
D2
D3
D4
D5
D6
D7
D8
D9 LSB
INPUT BUFFER
UPPER 4-BIT
4-BIT DECIMAL DECODER
15
LOWER 6-BIT
A-GND
18
LADDER NETWORK
20
OUTPUT
S1 S2 S3 S4 S5 S6
S7 S8 S20 S21
VREF
27
BIAS CIRCUIT
A-VEE
26
CK
13
CK
14
CLOCK BUFFER
CLOCK

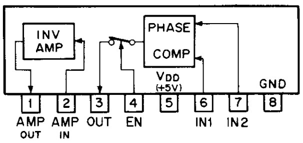
INV SELECTION

DATA INPUTS										OUTPUT	
D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	INV "0"	INV "1"
0	0	0	0	0	0	0	0	0	0	Vo(OS)	Vo(OS) -1.000V
0	0	0	0	0	0	0	0	0	1	Vo(OS) - 0.001V	Vo(OS) -0.999V
0	0	0	0	0	0	0	0	1	0	Vo(OS) - 0.002V	Vo(OS) -0.998V
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
0	1	1	1	1	1	1	1	1	1	Vo(OS) - 0.500V	Vo(OS) - 0.502V
1	0	0	0	0	0	0	0	0	0	Vo(OS) - 0.501V	Vo(OS) - 0.501V
1	0	0	0	0	0	0	0	0	1	Vo(OS) - 0.502V	Vo(OS) - 0.500V
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	1	1	1	1	1	1	Vo(OS) - 1.000V	Vo(OS)

1 ; ECL HIGH LEVEL
0 ; ECL LOW LEVEL
Vo(OS); ZERO OFFSET

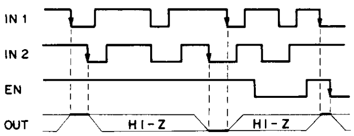
CX23065 (SONY)

N-MOS PHASE COMPARATOR WITH INVERSION AMPLIFIER
- PRINTED SIDE VIEW -


INV AMP
PHASE COMP
VDD (+5V)
GND
1
2
3
4
5
6
7
8
AMP OUT
AMP IN
OUT
EN
IN1
IN2

EN	OUT
1	ACTIVE
0	HIGH IMPEDANCE

1; HIGH LEVEL
0; LOW LEVEL

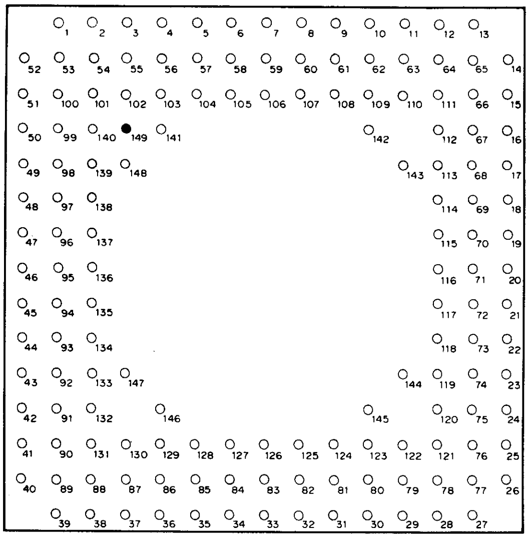

TIMING CHART

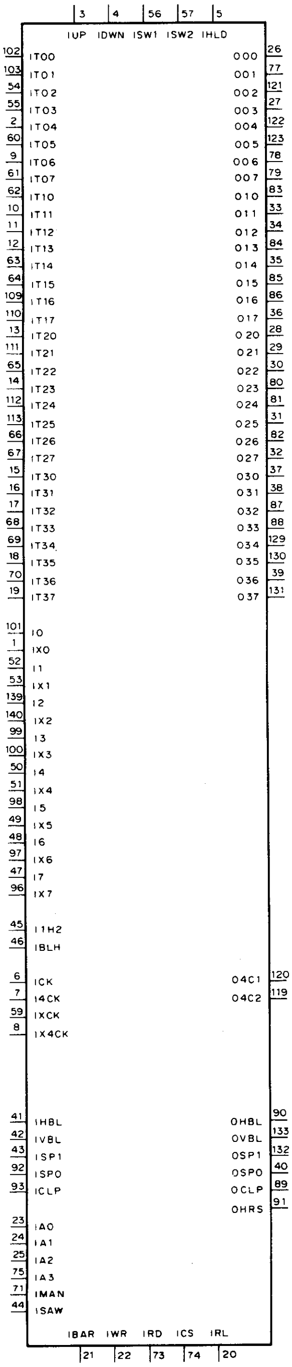
IN 1
IN 2
EN
OUT
HI-Z
HI-Z

HI-Z ; HI-IMPEDANCE

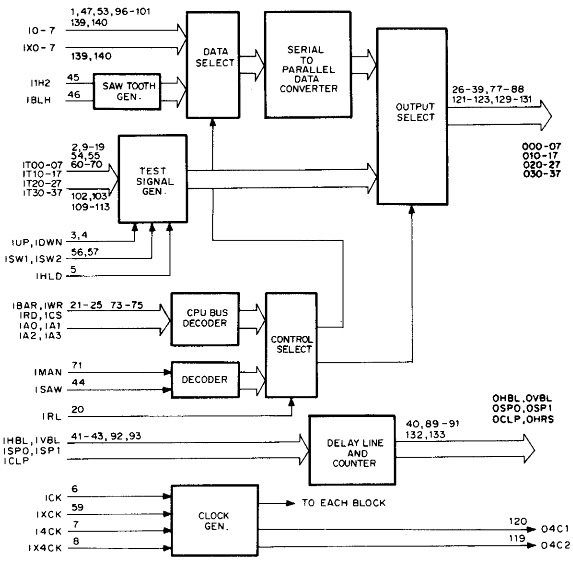
CXB1013G (SONY)

SERIAL TO PARALLEL DATA CONVERTER AND TEST SIGNAL GENERATOR
– BOTTOM VIEW –


1 2 3 4 5 6 7 8 9 10 11 12 13
52 53 54 55 56 57 58 59 60 61 62 63 64 65 14
51 100 101 102 103 104 105 106 107 108 109 110 111 66 15
50 99 140 149 141 142 112 67 16
49 98 139 148 143 113 68 17
48 97 138 114 69 18
47 96 137 115 70 19
46 95 136 116 71 20
45 94 135 117 72 21
44 93 134 118 73 22
43 92 133 147 144 119 74 23
42 91 132 146 145 120 75 24
41 90 131 130 129 128 127 126 125 124 123 122 121 76 25
40 89 88 87 86 85 84 83 82 81 80 79 78 77 26
39 38 37 36 35 34 33 32 31 30 29 28 27


3 IUP
4 IDWN
56 ISW1
57 ISW2
5 IHLD
102 IT00
103 IT01
54 IT02
55 IT03
2 IT04
60 IT05
9 IT06
61 IT07
62 IT10
10 IT11
11 IT12
12 IT13
63 IT14
64 IT15
109 IT16
110 IT17
13 IT20
111 IT21
65 IT22
14 IT23
112 IT24
113 IT25
66 IT26
67 IT27
15 IT30
16 IT31
17 IT32
68 IT33
69 IT34
18 IT35
70 IT36
19 IT37
O00 26
O01 77
O02 121
O03 27
O04 122
O05 123
O06 78
O07 79
O10 83
O11 33
O12 34
O13 84
O14 35
O15 85
O16 86
O17 36
O20 28
O21 29
O22 30
O23 80
O24 81
O25 31
O26 82
O27 32
O30 37
O31 38
O32 87
O33 88
O34 129
O35 130
O36 39
O37 131
101 I0
1 IX0
52 I1
53 IX1
139 I2
140 IX2
99 I3
100 IX3
50 I4
51 IX4
98 I5
49 IX5
48 I6
97 IX6
47 I7
96 IX7
45 I1H2
46 IBLH
6 ICK
7 I4CK
59 IXCK
8 IX4CK
O4C1 120
O4C2 119
41 IHBL
42 IVBL
43 ISP1
92 ISPO
93 ICLP
OHBL 90
OVBL 133
OSP1 132
OSPO 40
OCLP 89
OHRS 91
23 IA0
24 IA1
25 IA2
75 IA3
71 IMAN
44 ISAW
IBAR 21
IWR 22
IRD 73
ICS 74
IRL 20

CXB1013G(1/2)

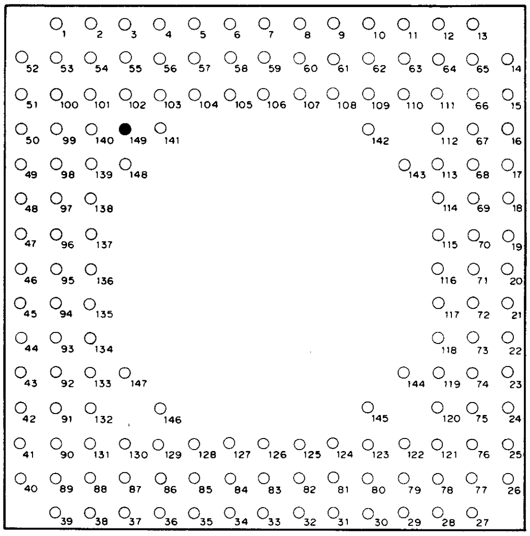

1,47,53,96-101
139,140
I0-7
IX0-7
139,140
DATA SELECT
SERIAL TO PARALLEL DATA CONVERTER
OUTPUT SELECT
I1H2 45
IBLH 46
SAW TOOTH GEN.
26-39,77-88
121-123,129-131
O00-07
O10-17
O20-27
O30-37
2,9-19
54,55
60-70
IT00-07
IT10-17
IT20-27
IT30-37
102,103
109-113
TEST SIGNAL GEN.
IUP,IDWN 3,4
ISW1,ISW2 56,57
IHLD 5
IBAR,IWR 21-25 73-75
IRD,ICS
IA0,IA1
IA2,IA3
CPU BUS DECODER
CONTROL SELECT
IMAN 71
ISAW 44
DECODER
IRL 20
OHBL,OVBL
OSPO,OSP1
OCLP,OHRS
40,89-91
132,133
IHBL,IVBL 41-43,92,93
ISPO,ISP1
ICLP
DELAY LINE AND COUNTER
ICK 6
IXCK 59
I4CK 7
IX4CK 8
CLOCK GEN.
TO EACH BLOCK
120 O4C1
119 O4C2

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	IX0	51	I	IX4	101	I	I0
2	I	IT04	52	I	I1	102	I	IT00
3	I	IUP	53	I	IX1	103	I	IT01
4	I	IDOWN	54	I	IT02	104	–	GND
5	I	IHLD	55	I	IT03	105	–	GND
6	I	ICK	56	I	ISW1	106	–	GND
7	I	I4CK	57	I	ISW2	107	–	GND
8	I	IX4C	58	–	GND	108	–	GND
9	I	IT06	59	I	IXCK	109	I	IT16
10	I	IT11	60	I	IT05	110	I	IT17
11	I	IT12	61	I	IT07	111	I	IT21
12	I	IT13	62	I	IT10	112	I	IT24
13	I	IT20	63	I	IT14	113	I	IT25
14	I	IT23	64	I	IT15	114	–	VEE
15	I	IT30	65	I	IT22	115	–	GND
16	I	IT31	66	I	IT26	116	–	VEE
17	I	IT32	67	I	IT27	117	–	GND
18	I	IT35	68	I	IT33	118	–	VEE
19	I	IT37	69	I	IT34	119	O	O4C2
20	I	IRL	70	I	IT36	120	O	O4C1
21	I	IBAR	71	I	IMAN	121	O	O02
22	I	IWR	72	–	NC	122	O	O04
23	I	IA0	73	I	IRD	123	O	O05
24	I	IA1	74	I	ICS	124	–	GND
25	I	IA2	75	I	IA3	125	–	GND
26	O	O00	76	–	NC	126	–	GND
27	O	O03	77	O	O01	127	–	GND
28	O	O20	78	O	O06	128	–	GND
29	O	O21	79	O	O07	129	O	O34
30	O	O22	80	O	O23	130	O	O35
31	O	O25	81	O	O24	131	O	O37
32	O	O27	82	O	O26	132	O	OSP1
33	O	O11	83	O	O10	133	O	OVBL
34	O	O12	84	O	O13	134	–	VEE
35	O	O14	85	O	O15	135	–	GND
36	O	O17	86	O	O16	136	–	VEE
37	O	O30	87	O	O32	137	–	GND
38	O	O31	88	O	O33	138	–	VEE
39	O	O36	89	O	OCLP	139	I	I2
40	O	OSP0	90	O	OHBL	140	I	IX2
41	I	IHBL	91	O	OHRS	141	–	VCC
42	I	IVBL	92	I	ISP0	142	–	VCC
43	I	ISP1	93	I	ICLP	143	–	VCC
44	I	ISAW	94	I	ITM1	144	–	VCC
45	I	I1H2	95	I	IRST	145	–	VCC
46	I	IBLH	96	I	IX7	146	–	VCC
47	I	I7	97	I	IX6	147	–	VCC
48	I	I6	98	I	I5	148	–	VCC
49	I	IX5	99	I	I3	149	–	INDEX PIN
50	I	I4	100	I	IX3			

IT00-07,IT10-17,IT20-27,IT30-37 ; DATA INPUTS
I0-7,IX0-7 ; DIFFERENTIAL DATA INPUTS
O00-07,O10-17,O20-27,O30-37 ; DATA OUTPUT
IUP,IDWN,ISW1,ISW2,IHLD ; TEST SIGNAL GENERATION TIMING INPUTS
ICK,I4CK,IXCK,IX4CK/O4C1,O4C2 ; CLOCK INPUTS/OUTPUTS
IBAR ; TEST SIGNAL ON/OFF CONTROL INPUT
IWR ; WRITE STROBE INPUT
IRD ; READ STROBE INPUT
ICS ; CHIP SELECT INPUT
IA0-3 ; CPU ADDRESS INPTUS
IRL,IMAN,ISAW ; MANUAL CONTROL INPUTS
IHBL/OHBL ; H BLANKING INPUT/OUTPUT
IVBL/OVBL ; V BLANKING INPUT/OUTPUT
ISP0,ISP1/OSP0,OSP1 ; SYNC GENERATION TIMING PULSE INPUTS/OUTPUTS
ICLP/OCLP ; CLAMP PULSE INPUT/OUTPUT
OHRS ; H RESET PULSE OUTPUT

CXB1014G (SONY)

PARALLEL TO SERIAL DATA CONVERTOR AND DIGITAL BLANKING COMPENSATER
- BOTTOM VIEW -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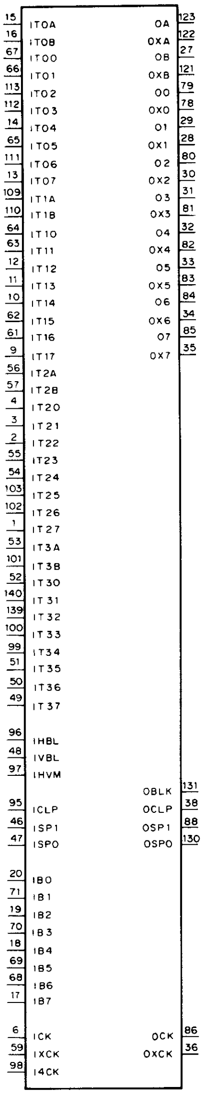
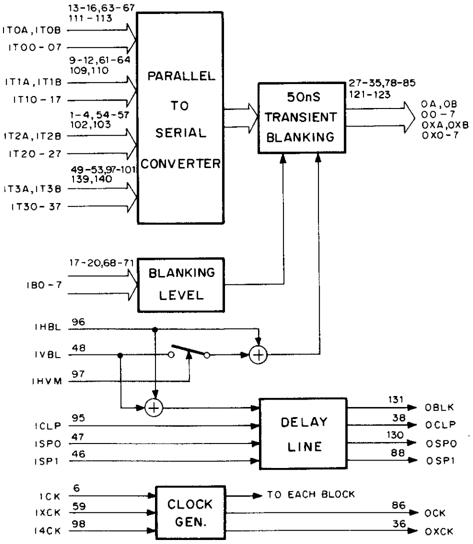
50 99 140 149 141 142 112 67 16
49 98 139 148 143 113 68 17
48 97 138 114 69 18
47 96 137 115 70 19
46 95 136 116 71 20
45 94 135 117 72 21
44 93 134 118 73 22
43 92 133 147 144 119 74 23
42 91 132 146 145 120 75 24
41 90 131 130 129 128 127 126 125 124 123 122 121 76 25
40 89 88 87 86 85 84 83 82 81 80 79 78 77 26
39 38 37 36 35 34 33 32 31 30 29 28 27

CXB1014G(1/2)

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	IT27	51	I	IT35	101	I	IT3B
2	I	IT22	52	I	IT30	102	I	IT26
3	I	IT21	53	I	IT3A	103	I	IT25
4	I	IT20	54	I	IT24	104	-	GND
5	-	GND	55	I	IT23	105	-	GND
6	I	ICK	56	I	IT2A	106	-	GND
7	-	GND	57	I	IT2B	107	-	GND
8	-	GND	58	-	GND	108	-	GND
9	I	IT17	59	I	IXCK	109	I	IT1A
10	I	IT14	60	-	GND	110	I	IT1B
11	I	IT13	61	I	IT16	111	I	IT06
12	I	IT12	62	I	IT15	112	I	IT03
13	I	IT07	63	I	IT11	113	I	IT02
14	I	IT04	64	I	IT10	114	-	VEE
15	I	IT0A	65	I	IT05	115	-	GND
16	I	IT0B	66	I	IT01	116	-	VEE
17	I	IB7	67	I	IT00	117	-	GND
18	I	IB4	68	I	IB6	118	-	VEE
19	I	IB2	69	I	IB5	119	-	NC
20	I	IB0	70	I	IB3	120	-	NC
21	-	NC	71	I	IB1	121	O	OXB
22	-	NC	72	-	NC	122	O	OXA
23	-	NC	73	-	NC	123	O	OA
24	-	NC	74	-	NC	124	-	GND
25	-	NC	75	-	NC	125	-	GND
26	-	NC	76	-	NC	126	-	GND
27	O	OB	77	-	NC	127	-	GND
28	O	OX1	78	O	OX0	128	-	GND
29	O	O1	79	O	O0	129	-	NC
30	O	OX2	80	O	O2	130	O	OSP0
31	O	O3	81	O	OX3	131	O	OBLK
32	O	O4	82	O	OX4	132	-	NC
33	O	O5	83	O	OX5	133	-	NC
34	O	OX6	84	O	O6	134	-	VEE
35	O	OX7	85	O	O7	135	-	GND
36	O	OXCK	86	O	OCK	136	-	VEE
37	-	NC	87	-	NC	137	-	GND
38	O	OCLP	88	O	OSP1	138	-	VEE
39	-	NC	89	-	NC	139	I	IT32
40	-	NC	90	-	NC	140	I	IT31
41	-	NC	91	-	NC	141	-	VCC
42	-	NC	92	-	NC	142	-	VCC
43	-	NC	93	-	NC	143	-	VCC
44	-	NC	94	-	NC	144	-	VCC
45	-	NC	95	I	ICLP	145	-	VCC
46	I	ISP1	96	I	IHBL	146	-	VCC
47	I	ISP0	97	I	IHVM	147	-	VCC
48	I	IVBL	98	I	I4CK	148	-	VCC
49	I	IT37	99	I	IT34	149	-	INDEX PIN
50	I	IT36	100	I	IT33			

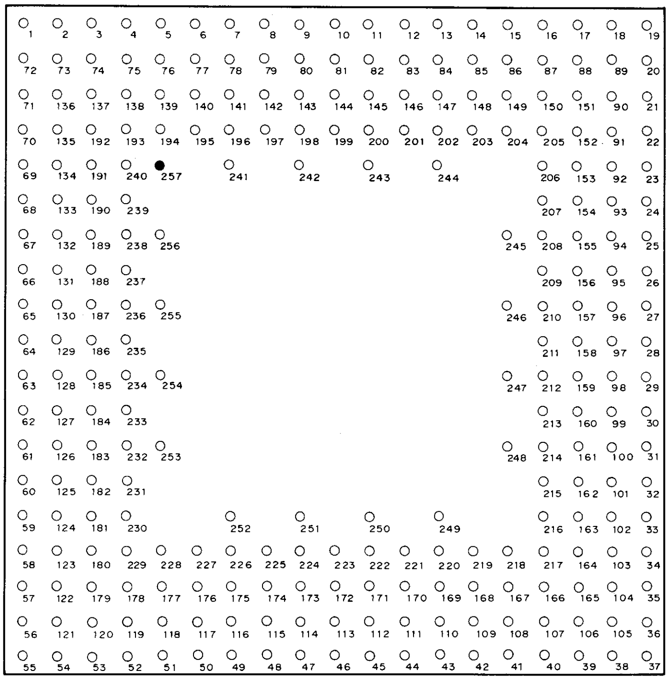

15 IT0A
16 IT0B
67 IT00
66 IT01
113 IT02
112 IT03
14 IT04
65 IT05
111 IT06
13 IT07
109 IT1A
110 IT1B
64 IT10
63 IT11
12 IT12
11 IT13
10 IT14
62 IT15
61 IT16
9 IT17
56 IT2A
57 IT2B
4 IT20
3 IT21
2 IT22
55 IT23
54 IT24
103 IT25
102 IT26
1 IT27
53 IT3A
101 IT3B
52 IT30
140 IT31
139 IT32
100 IT33
99 IT34
51 IT35
50 IT36
49 IT37
96 IHBL
48 IVBL
97 IHVM
95 ICLP
46 ISP1
47 ISP0
20 IB0
71 IB1
19 IB2
70 IB3
18 IB4
69 IB5
68 IB6
17 IB7
6 ICK
59 IXCK
98 I4CK
OA 123
OXA 122
OB 27
OXB 121
O0 79
OX0 78
O1 29
OX1 28
O2 80
OX2 30
O3 31
OX3 81
O4 32
OX4 82
O5 33
OX5 83
O6 84
OX6 34
O7 85
OX7 35
OBLK 131
OCLP 38
OSP1 88
OSP0 130
OCK 86
OXCK 36


13-16,63-67
111-113
IT0A,IT0B
IT00-07
9-12,61-64
109,110
IT1A,IT1B
IT10-17
1-4,54-57
102,103
IT2A,IT2B
IT20-27
49-53,97-101
139,140
IT3A,IT3B
IT30-37
PARALLEL TO SERIAL CONVERTER
50nS TRANSIENT BLANKING
27-35,78-85
121-123
OA,OB
O0-7
OXA,OXB
OX0-7
17-20,68-71
IB0-7
BLANKING LEVEL
IHBL 96
IVBL 48
IHVM 97
ICLP 95
ISP0 47
ISP1 46
DELAY LINE
131 OBLK
38 OCLP
130 OSP0
88 OSP1
ICK 6
IXCK 59
I4CK 98
CLOCK GEN.
TO EACH BLOCK
86 OCK
36 OXCK

IT0A,IT0B,IT00-07,IT1A,IT1B,IT10-17,IT2A,IT2B,IT20-27,IT3A,IT3B,IT30-37
; DATA INPUTS
IB0-7 ; BLANKING LEVEL DATA INPUTS
OA,OB,O0-7,OXA,OXB,OX0-7 ; DIFFERENTIAL DATA INPUTS
IHBL/OHBL ; H BLANKING INPUT/OUTPUT
IVBL/OVBL ; V BLANKING INPUT/OUTPUT
IHVM ; H/V BLANKING SIGNAL MIX ON/OFF INPUT
ICLP/OCLP ; CLAMP PULSE INPUT/OUTPUT
ISP0,ISP1/OSP0,OSP1 ; SYNC GENERATION TIMING PULSE INPUTS/OUTPUTS
ICK,IXCK,I4CK/OCK,OXCK ; CLOCK INPUTS/OUTPUTS

CXD1348G (SONY)

C-MOS DETAIL GENERATOR
- BOTTOM VIEW -


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 20
71 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 90 21
70 135 192 193 194 195 196 197 198 199 200 201 202 203 204 205 152 91 22
69 134 191 240 257 241 242 243 244 206 153 92 23
68 133 190 239 207 154 93 24
67 132 189 238 256 245 208 155 94 25
66 131 188 237 209 156 95 26
65 130 187 236 255 246 210 157 96 27
64 129 186 235 211 158 97 28
63 128 185 234 254 247 212 159 98 29
62 127 184 233 213 160 99 30
61 126 183 232 253 248 214 161 100 31
60 125 182 231 215 162 101 32
59 124 181 230 252 251 250 249 216 163 102 33
58 123 180 229 228 227 226 225 224 223 222 221 220 219 218 217 164 103 34
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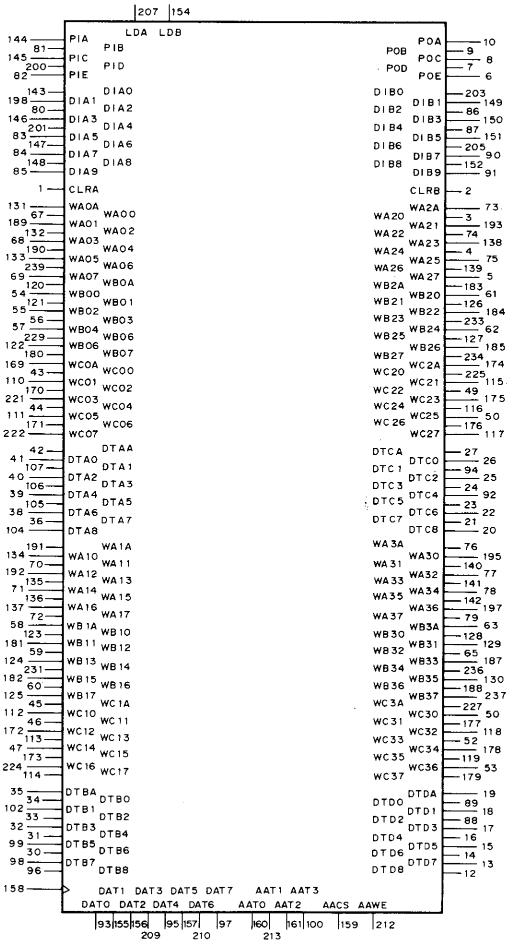
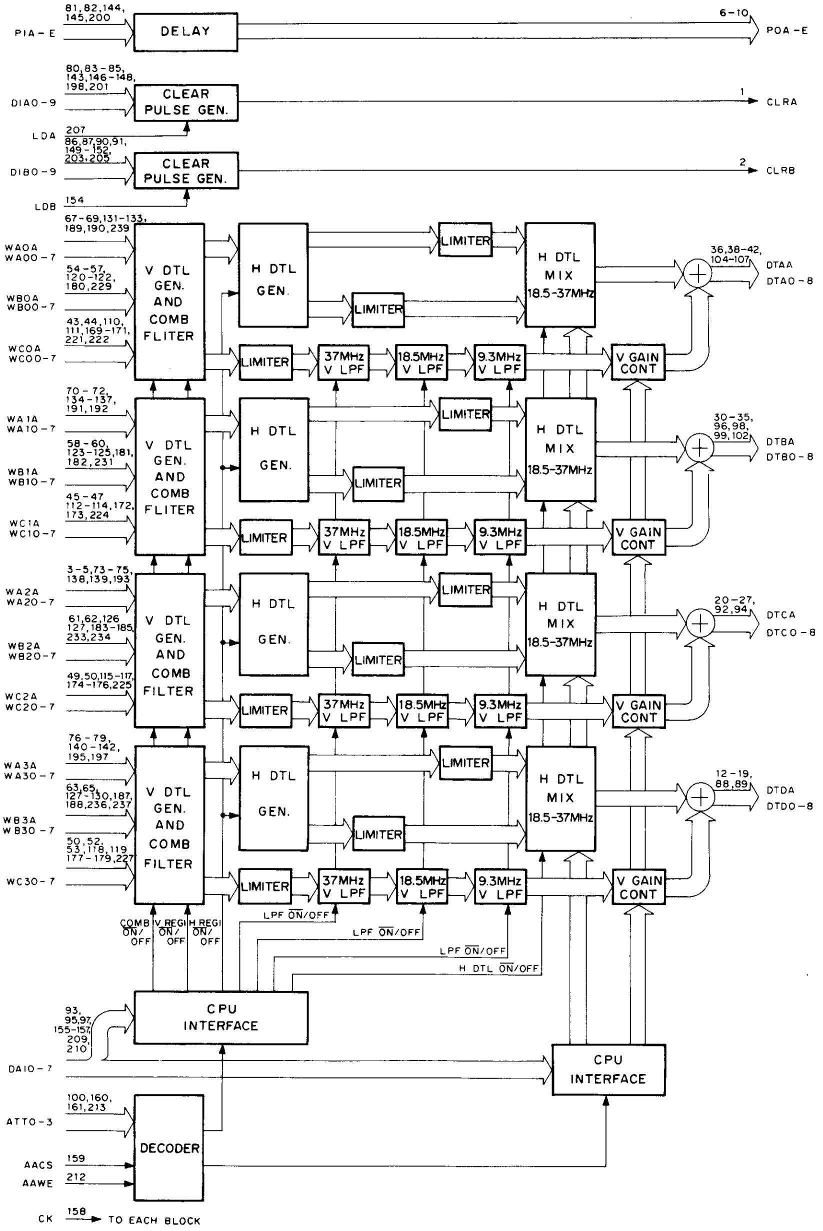
55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37


LDA LDB
PIA PIB PIC PID PIE
DIA0 DIA1 DIA2 DIA3 DIA4 DIA5 DIA6 DIA7 DIA8 DIA9
CLRA
WA0A WA00 WA01 WA02 WA03 WA04 WA05 WA06 WA07
WB0A WB00 WB01 WB02 WB03 WB04 WB06 WB07
WC0A WC00 WC01 WC02 WC03 WC04 WC05 WC06 WC07
DTAA DTA0 DTA1 DTA2 DTA3 DTA4 DTA5 DTA6 DTA7 DTA8
WA1A WA10 WA11 WA12 WA13 WA14 WA15 WA16 WA17
WB1A WB10 WB11 WB12 WB13 WB14 WB15 WB16 WB17
WC1A WC10 WC11 WC12 WC13 WC14 WC15 WC16 WC17
DTBA DTB0 DTB1 DTB2 DTB3 DTB4 DTB5 DTB6 DTB7 DTB8
POA POB POC POD POE
DIB0 DIB1 DIB2 DIB3 DIB4 DIB5 DIB6 DIB7 DIB8 DIB9
CLRB
WA2A WA20 WA21 WA22 WA23 WA24 WA25 WA26 WA27
WB2A WB20 WB21 WB22 WB23 WB24 WB25 WB26 WB27
WC2A WC20 WC21 WC22 WC23 WC24 WC25 WC26 WC27
DTCA DTC0 DTC1 DTC2 DTC3 DTC4 DTC5 DTC6 DTC7 DTC8
WA3A WA30 WA31 WA32 WA33 WA34 WA35 WA36 WA37
WB3A WB30 WB31 WB32 WB33 WB34 WB35 WB36 WB37
WC3A WC30 WC31 WC32 WC33 WC34 WC35 WC36 WC37
DTDA DTD0 DTD1 DTD2 DTD3 DTD4 DTD5 DTD6 DTD7 DTD8
DAT1 DAT3 DAT5 DAT7 AAT1 AAT3
DAT0 DAT2 DAT4 DAT6 AAT0 AAT2 AACS AAWE

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	O	CLRA	66	–	NC	131	I	WA0A	196	–	GND
2	O	CLRB	67	I	WA00	132	I	WA02	197	I	WA36
3	I	WA20	68	I	WA03	133	I	WA05	198	I	DIA1
4	I	WA24	69	I	WA07	134	I	WA10	199	–	GND
5	I	WA27	70	I	WA11	135	I	WA13	200	I	PID
6	O	POE	71	I	WA14	136	I	WA15	201	I	DIA4
7	O	POD	72	I	WA17	137	I	WA16	202	–	GND
8	O	POC	73	I	WA2A	138	I	WA23	203	I	DIB0
9	O	POB	74	I	WA22	139	I	WA26	204	–	GND
10	O	POA	75	I	WA25	140	I	WA31	205	I	DIB6
11	–	NC	76	I	WA3A	141	I	WA33	206	–	GND
12	O	DTD8	77	I	WA32	142	I	WA35	207	I	LDA
13	O	DTD7	78	I	WA34	143	I	DIA0	208	–	GND
14	O	DTD6	79	I	WA37	144	I	PIA	209	I	DAT3
15	O	DTD5	80	I	DIA2	145	I	PIC	210	I	DAT6
16	O	DTD4	81	I	PIB	146	I	DIA3	211	–	GND
17	O	DTD3	82	I	PIE	147	I	DIA6	212	I	AAWE
18	O	DTD1	83	I	DIA5	148	I	DIA8	213	I	AAT1
19	O	DTDA	84	I	DIA7	149	I	DIB1	214	–	GND
20	O	DTC8	85	I	DIA9	150	I	DIB3	215	–	NC
21	O	DTC7	86	I	DIB2	151	I	DIB5	216	–	GND
22	O	DTC6	87	I	DIB4	152	I	DIB8	217	–	NC
23	O	DTC5	88	O	DTD2	153	–	NC	218	–	GND
24	O	DTC3	89	O	DTD0	154	I	LDB	219	–	NC
25	O	DTC2	90	I	DIB7	155	I	DAT1	220	–	GND
26	O	DTC0	91	I	DIB9	156	I	DAT2	221	I	WC03
27	O	DTCA	92	O	DTC4	157	I	DAT5	222	I	WC07
28	–	NC	93	I	DAT0	158	I	CK	223	–	GND
29	–	NC	94	O	DTC1	159	I	AACS	224	I	WC16
30	O	DTB6	95	I	DAT4	160	I	AAT0	225	I	WC20
31	O	DTB4	96	O	DTB8	161	I	AAT2	226	–	GND
32	O	DTB3	97	I	DAT7	162	–	NC	227	I	WC3A
33	O	DTB2	98	O	DTB7	163	–	NC	228	–	GND
34	O	DTB0	99	O	DTB5	164	–	NC	229	I	WB05
35	O	DTBA	100	I	AAT3	165	–	NC	230	–	GND
36	O	DTA7	101	–	NC	166	–	NC	231	I	WB14
37	–	NC	102	O	DTB1	167	–	NC	232	–	GND
38	O	DTA6	103	–	NC	168	–	NC	233	I	WB23
39	O	DTA4	104	O	DTA8	169	I	WC0A	234	I	WB27
40	O	DTA2	105	O	DTA5	170	I	WC02	235	–	GND
41	O	DTA0	106	O	DTA3	171	I	WC06	236	I	WB34
42	O	DTAA	107	O	DTA1	172	I	WC12	237	I	WB37
43	I	WC00	108	–	NC	173	I	WC15	238	–	GND
44	I	WC04	109	–	NC	174	I	WC2A	239	I	WA06
45	I	WC1A	110	I	WC01	175	I	WC23	240	–	GND
46	I	WC11	111	I	WC05	176	I	WC26	241	–	VDD
47	I	WC14	112	I	WC10	177	I	WC31	242	–	VDD
48	–	NC	113	I	WC13	178	I	WC34	243	–	VDD
49	I	WC22	114	I	WC17	179	I	WC37	244	–	VDD
50	I	WC25	115	I	WC21	180	I	WB07	245	–	VDD
51	I	WC30	116	I	WC24	181	I	WB11	246	–	VDD
52	I	WC33	117	I	WC27	182	I	WB15	247	–	VDD
53	I	WC36	118	I	WC32	183	I	WB2A	248	–	VDD
54	I	WB00	119	I	WC35	184	I	WB22	249	–	VDD
55	I	WB02	120	I	WB0A	185	I	WB26	250	–	VDD
56	I	WB03	121	I	WB01	186	–	NC	251	–	VDD
57	I	WB04	122	I	WB06	187	I	WB33	252	–	VDD
58	I	WB1A	123	I	WB10	188	I	WB36	253	–	VDD
59	I	WB12	124	I	WB13	189	I	WA01	254	–	VDD
60	I	WB16	125	I	WB17	190	I	WA04	255	–	VDD
61	I	WB20	126	I	WB21	191	I	WA1A	256	–	VDD
62	I	WB24	127	I	WB25	192	I	WA12	257	–	INDEX PIN
63	I	WB3A	128	I	WB30	193	I	WA21			
64	–	NC	129	I	WB31	194	–	GND			
65	I	WB32	130	I	WB35	195	I	WA30			

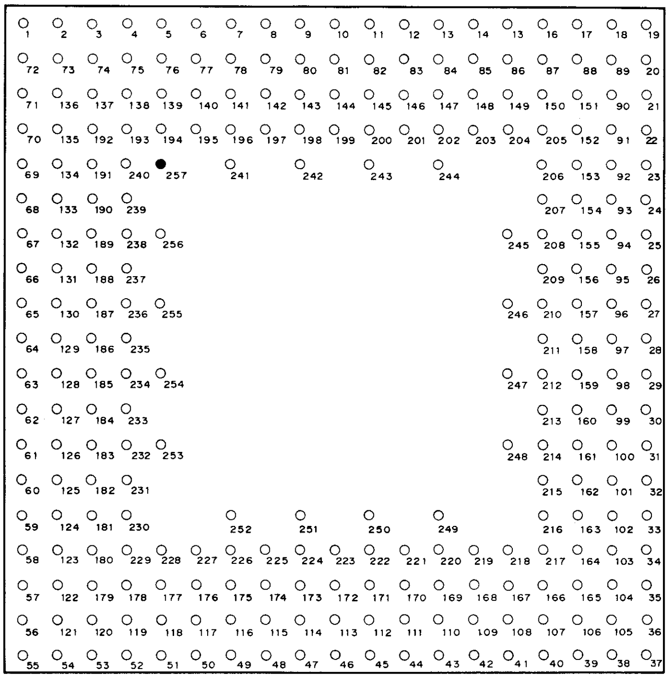
PIA-E/POA-E : TIMING PULSE INPUTS/OUTPUTS
DIA0-9, DIB0-9 : COUNTER DATA INPUTS
LDA, LDB : LOAD PULSE INPUT
WA0A, WA00-07, WA1A, WA10-17, WA2A, WA20-27, WA3A, WA30-37
: OH DELAYED Y MATRIX DATA INPUTS
WB0A, WB00-07, WB1A, WB10-17, WB2A, WB20-27, WB3A, WB30-37
: 1H DELAYED Y MATRIX DATA INPUTS
WC0A, WC00-07, WC1A, WC10-17, WC2A, WC20-27, WC3A, WC30-37
: 2H DELAYED Y MATRIX DATA INPUTS
DTA0-7 : CPU DATA INPUTS
ATT0-3 : CPU ADDRESS DATA INPUTS
AACS : CHIP SELECT INPUT
AAWR : WRITE ENABLE INPUT
DTAA, DTA0-8, DTBA, DTB0-8, DTCA, DTC0-8, DTDA, DTD0-8
: DETAIL DATA OUTPUTS
CLRA, CLRB : CLEAR PULSE OUTPUT



PIA - E
81,82,144, 145,200
DELAY
6-10
POA - E
DIA0 - 9
80,83-85, 143,146-148, 198,201
CLEAR PULSE GEN.
1
CLRA
LDA
207
DIB0 - 9
86,87,90,91, 149-152, 203,205
CLEAR PULSE GEN.
2
CLRB
LDB
154
WA0A
WA00 - 7
67-69,131-133, 189,190,239
WB0A
WB00 - 7
54-57, 120-122, 180,229
WC0A
WC00 - 7
43,44,110, 111,169-171, 221,222
V DTL GEN. AND COMB FLITER
H DTL GEN.
LIMITER
LIMITER
H DTL MIX 18.5-37MHz
36,38-42, 104-107
DTAA
DTA0 - 8
LIMITER
37MHz V LPF
18.5MHz V LPF
9.3MHz V LPF
V GAIN CONT
WA1A
WA10 - 7
70-72, 134-137, 191,192
WB1A
WB10 - 7
58-60, 123-125,181, 182,231
WC1A
WC10 - 7
45-47 112-114,172, 173,224
V DTL GEN. AND COMB FLITER
H DTL GEN.
LIMITER
LIMITER
H DTL MIX 18.5-37MHz
30-35, 96,98, 99,102
DTBA
DTB0 - 8
LIMITER
37MHz V LPF
18.5MHz V LPF
9.3MHz V LPF
V GAIN CONT
WA2A
WA20 - 7
3-5,73-75, 138,139,193
WB2A
WB20 - 7
61,62,126 127,183-185, 233,234
WC2A
WC20 - 7
49,50,115-117, 174-176,225
V DTL GEN. AND COMB FILTER
H DTL GEN.
LIMITER
LIMITER
H DTL MIX 18.5-37MHz
20-27, 92,94
DTCA
DTC0 - 8
LIMITER
37MHz V LPF
18.5MHz V LPF
9.3MHz V LPF
V GAIN CONT
WA3A
WA30 - 7
76-79, 140-142, 195,197
WB3A
WB30 - 7
63,65, 127-130,187, 188,236,237
WC30 - 7
50,52, 53,118,119 177-179,227
V DTL GEN. AND COMB FILTER
H DTL GEN.
LIMITER
LIMITER
H DTL MIX 18.5-37MHz
12-19, 88,89
DTDA
DTD0 - 8
LIMITER
37MHz V LPF
18.5MHz V LPF
9.3MHz V LPF
V GAIN CONT
COMB $\overline{\text{ON}}$/ OFF
V REGI $\overline{\text{ON}}$/ OFF
H REGI $\overline{\text{ON}}$/ OFF
LPF $\overline{\text{ON}}$/OFF
LPF $\overline{\text{ON}}$/OFF
LPF $\overline{\text{ON}}$/OFF
H DTL $\overline{\text{ON}}$/OFF
CPU INTERFACE
93, 95,97, 155-157, 209, 210
DAI0 - 7
CPU INTERFACE
ATT0 - 3
100,160, 161,213
DECODER
AACS
159
AAWE
212
CK
158
TO EACH BLOCK

CXD1349G (SONY)

C-MOS Y-MATRIX AND DETAIL MIXER
- BOTTOM VIEW -


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 20
71 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 90 21
70 135 192 193 194 195 196 197 198 199 200 201 202 203 204 205 152 91 22
69 134 191 240 257 241 242 243 244 206 153 92 23
68 133 190 239 207 154 93 24
67 132 189 238 256 245 208 155 94 25
66 131 188 237 209 156 95 26
65 130 187 236 255 246 210 157 96 27
64 129 186 235 211 158 97 28
63 128 185 234 254 247 212 159 98 29
62 127 184 233 213 160 99 30
61 126 183 232 253 248 214 161 100 31
60 125 182 231 215 162 101 32
59 124 181 230 252 251 250 249 216 163 102 33
58 123 180 229 228 227 226 225 224 223 222 221 220 219 218 217 164 103 34
57 122 179 178 177 176 175 174 173 172 171 170 169 168 167 166 165 104 35
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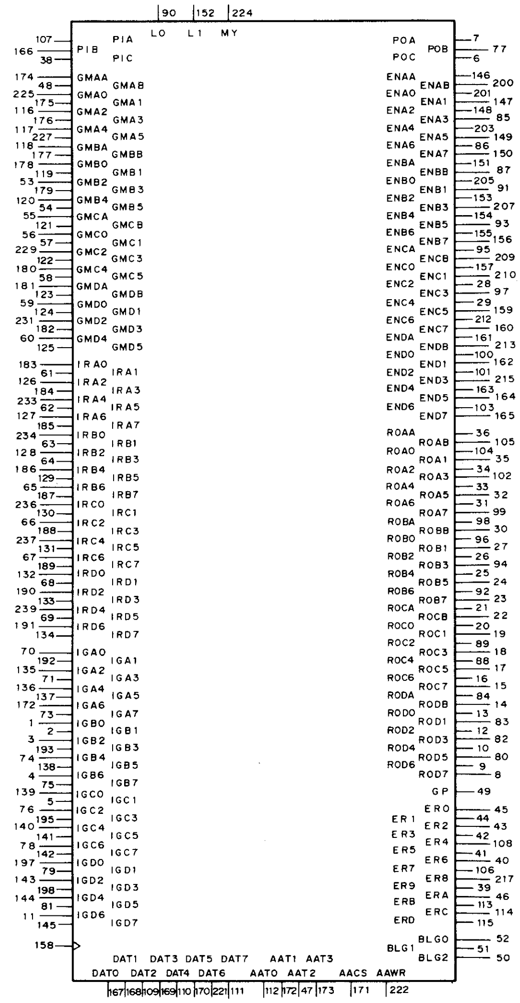
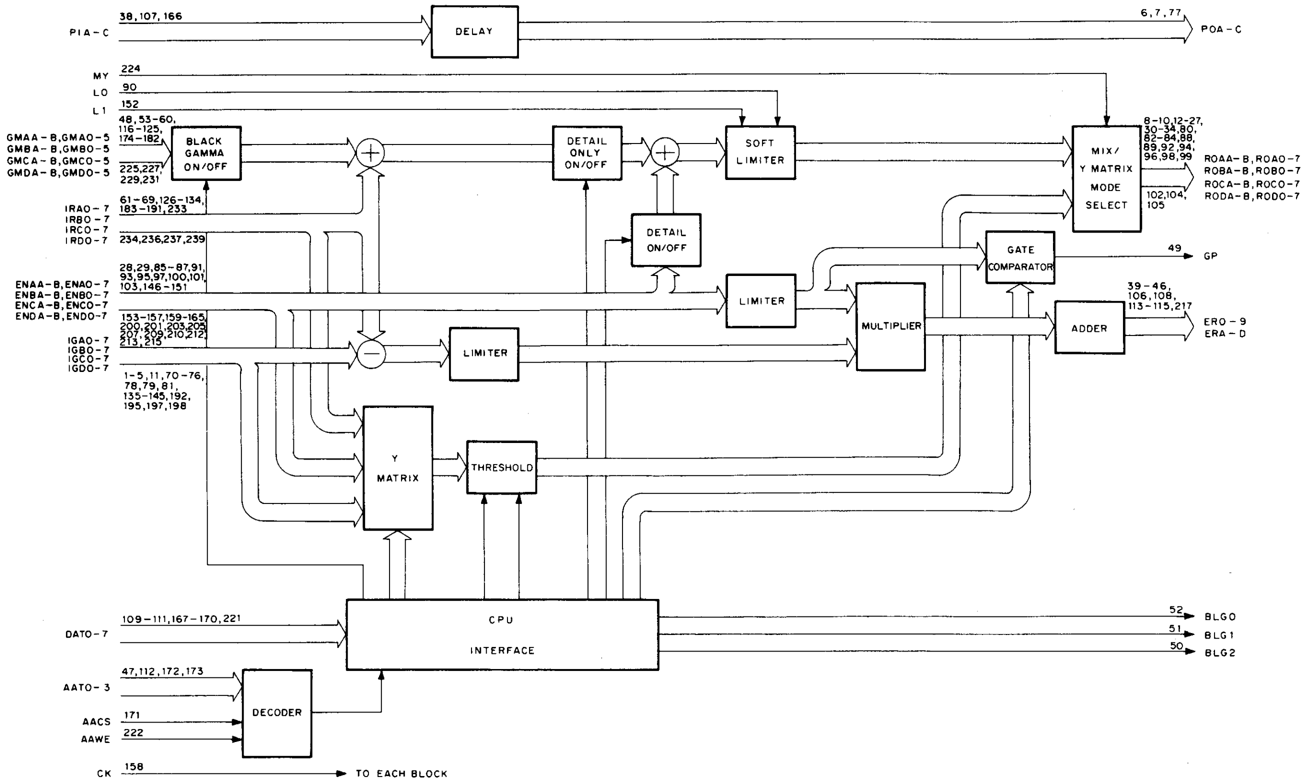
55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37


LO L1 MY
PIA PIB PIC
GMAA GMAB GMA0 GMA1 GMA2 GMA3 GMA4 GMA5
GMBA GMBB GMB0 GMB1 GMB2 GMB3 GMB4 GMB5
GMCA GMCB GMC0 GMC1 GMC2 GMC3 GMC4 GMC5
GMDA GMDB GMD0 GMD1 GMD2 GMD3 GMD4 GMD5
IRA0 IRA1 IRA2 IRA3 IRA4 IRA5 IRA6 IRA7
IRB0 IRB1 IRB2 IRB3 IRB4 IRB5 IRB6 IRB7
IRC0 IRC1 IRC2 IRC3 IRC4 IRC5 IRC6 IRC7
IRD0 IRD1 IRD2 IRD3 IRD4 IRD5 IRD6 IRD7
IGA0 IGA1 IGA2 IGA3 IGA4 IGA5 IGA6 IGA7
IGB0 IGB1 IGB2 IGB3 IGB4 IGB5 IGB6 IGB7
IGC0 IGC1 IGC2 IGC3 IGC4 IGC5 IGC6 IGC7
IGD0 IGD1 IGD2 IGD3 IGD4 IGD5 IGD6 IGD7
POA POB POC
ENAA ENAB ENA0 ENA1 ENA2 ENA3 ENA4 ENA5 ENA6 ENA7
ENBA ENBB ENB0 ENB1 ENB2 ENB3 ENB4 ENB5 ENB6 ENB7
ENCA ENCB ENC0 ENC1 ENC2 ENC3 ENC4 ENC5 ENC6 ENC7
ENDA ENDB END0 END1 END2 END3 END4 END5 END6 END7
ROAA ROAB ROA0 ROA1 ROA2 ROA3 ROA4 ROA5 ROA6 ROA7
ROBA ROBB ROB0 ROB1 ROB2 ROB3 ROB4 ROB5 ROB6 ROB7
ROCA ROCB ROC0 ROC1 ROC2 ROC3 ROC4 ROC5 ROC6 ROC7
RODA RODB ROD0 ROD1 ROD2 ROD3 ROD4 ROD5 ROD6 ROD7
GP
ER0 ER1 ER2 ER3 ER4 ER5 ER6 ER7 ER8 ER9 ERA ERB ERC ERD
BLG0 BLG1 BLG2
DAT0 DAT1 DAT2 DAT3 DAT4 DAT5 DAT6 DAT7
AAT0 AAT1 AAT2 AAT3 AACS AAWR

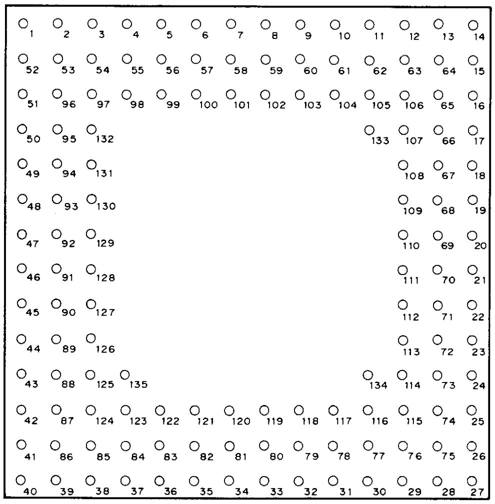
PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	IGB0	66	I	IRC2	131	I	IRC5	196	–	GND
2	I	IGB1	67	I	IRC6	132	I	IRD0	197	I	IGD0
3	I	IGB2	68	I	IRD1	133	I	IRD3	198	I	IGD3
4	I	IGB6	69	I	IRD5	134	I	IRD7	199	–	GND
5	I	IGC1	70	I	IGA0	135	I	IGA2	200	I	ENAB
6	O	POC	71	I	IGA3	136	I	IGA4	201	I	ENA0
7	O	POA	72	I	IGA6	137	I	IGA5	202	–	GND
8	O	ROD7	73	I	IGA7	138	I	IGB5	203	I	ENA4
9	O	ROD6	74	I	IGB4	139	I	IGC0	204	–	GND
10	O	ROD4	75	I	IGB7	140	I	IGC4	205	I	ENB0
11	I	IGD6	76	I	IGC2	141	I	IGC5	206	–	GND
12	O	ROD2	77	O	POB	142	I	IGC7	207	I	ENB3
13	O	ROD0	78	I	IGC6	143	I	IGD2	208	–	GND
14	O	RODB	79	I	IGD1	144	I	IGD4	209	I	ENCB
15	O	ROC7	80	O	ROD5	145	I	IGD7	210	I	ENC1
16	O	ROC6	81	I	IGD5	146	I	ENAA	211	–	GND
17	O	ROC5	82	O	ROD3	147	I	ENA1	212	I	ENC6
18	O	ROC3	83	O	ROD1	148	I	ENA2	213	I	ENDB
19	O	ROC1	84	O	RODA	149	I	ENA5	214	–	GND
20	O	ROC0	85	I	ENA3	150	I	ENA7	215	I	END3
21	O	ROCA	86	I	ENA6	151	I	ENBA	216	–	GND
22	O	ROCB	87	I	ENBB	152	I	L1	217	O	ER8
23	O	ROB7	88	O	ROC4	153	I	ENB2	218	–	GND
24	O	ROB5	89	O	ROC2	154	I	ENB4	219	–	NC
25	O	ROB4	90	I	L0	155	I	ENB6	220	–	GND
26	O	ROB2	91	I	ENB1	156	I	ENB7	221	I	DAT6
27	O	ROB1	92	O	ROB6	157	I	ENC0	222	I	AAWE
28	I	ENC2	93	I	ENB5	158	I	CK	223	–	GND
29	I	ENC4	94	O	ROB3	159	I	ENC5	224	I	MY
30	O	ROBB	95	I	ENCA	160	I	ENC7	225	I	GMA0
31	O	ROA6	96	O	ROB0	161	I	ENDA	226	–	GND
32	O	ROA5	97	I	ENC3	162	I	END1	227	I	GMA5
33	O	ROA4	98	O	ROBA	163	I	END4	228	–	GND
34	O	ROA2	99	O	ROA7	164	I	END5	229	I	GMC2
35	O	ROA1	100	I	END0	165	I	END7	230	–	GND
36	O	ROAA	101	I	END2	166	I	PIB	231	I	GMD2
37	–	NC	102	O	ROA3	167	I	DAT0	232	–	GND
38	I	PIC	103	I	END6	168	I	DAT1	233	I	IRA4
39	O	ER9	104	O	ROA0	169	I	DAT3	234	I	IRB0
40	O	ER6	105	O	ROAB	170	I	DAT5	235	–	GND
41	O	ER5	106	O	ER7	171	I	AACS	236	I	IRC0
42	O	ER3	107	I	PIA	172	I	AAT1	237	I	IRC4
43	O	ER2	108	O	ER4	173	I	AAT3	238	–	GND
44	O	ER1	109	I	DAT2	174	I	GMAA	239	I	IRD4
45	O	ER0	110	I	DAT4	175	I	GMA1	240	–	GND
46	O	ERA	111	I	DAT7	176	I	GMA3	241	–	VDD
47	I	AAT2	112	I	AAT0	177	I	GMBB	242	–	VDD
48	I	GMAB	113	O	ERB	178	I	GNB0	243	–	VDD
49	O	GP	114	O	ERC	179	I	GMB3	244	–	VDD
50	O	BLG2	115	O	ERD	180	I	GMC4	245	–	VDD
51	O	BLG1	116	I	GMA2	181	I	GMDA	246	–	VDD
52	O	BLG0	117	I	GMA4	182	I	GMD3	247	–	VDD
53	I	GMB2	118	I	GMBA	183	I	IRA0	248	–	VDD
54	I	GMB5	119	I	GMB1	184	I	IRA3	249	–	VDD
55	I	GMCA	120	I	GMB4	185	I	IRA7	250	–	VDD
56	I	GMC0	121	I	GMCB	186	I	IRB4	251	–	VDD
57	I	GMC1	122	I	GMC3	187	I	IRB7	252	–	VDD
58	I	GMC5	123	I	GMDB	188	I	IRC3	253	–	VDD
59	I	GMD0	124	I	GMD1	189	I	IRC7	254	–	VDD
60	I	GMD4	125	I	GMD5	190	I	IRD2	255	–	VDD
61	I	IRA1	126	I	IRA2	191	I	IRD6	256	–	VDD
62	I	IRA5	127	I	IRA6	192	I	IGA1	257	–	INDEX PIN
63	I	IRB1	128	I	IRB2	193	I	IGB3			
64	I	IRB3	129	I	IRB5	194	–	GND			
65	I	IRB6	130	I	IRC1	195	I	IGC3			

PIA-C/POA-C ; TIMING PULSE INPUTS/OUTPUTS
MY ; MIX/Y MATRIX MODE SELECT INPUT
L0, L1 ; SOFT LIMITER LEVEL SELECT INPUT
GMAA, GMAB, GMA0-5, GMBA, GMBB, GMB0-5, GMCA, GMCB, GMC0-5, GMDA, GMDB, GMD0-5 ; BLACK GAMMA DATA INPUTS
IRA0-7, IRB0-7, IRC0-7, IRD0-7 ; VIDEO SIGNAL DATA INPUTS
ENAA, ENAB, ENA0-7, ENBA, ENBB, ENB0-7, ENCA, ENCB, ENC0-7, ENDA, ENDB, END0-7 ; ENHANCEMENT DATA INPUTS
IGA0-7, IGB0-7, IGC0-7, IGD0-7 ; Gch VIDEO SIGNAL INPUTS
DAT0-7 ; CPU DATA INPUTS
AAT0-3 ; CPU ADDRESS DATA INPUTS
AACS ; CHIP SELECT INPUT
AAWE ; WRITE ENABLE INPUT
ROAA, RPAB, ROA0-7, ROBA, ROBB, ROB0-7, ROCA, ROCB, ROC0-7, RODA, RODB, ROD0-7 ; MIXED SIGNAL/Y MATRIX OUTPUTS
GP ; REGISTRATION ERROR DETECTOR GATE PULSE OUTPUT
ER0-9, ERA-D ; REGISTRATION ERROR DATA OUTPUTS
BLG0-2 ; BLACK GAMMA ROM SELECT DATA OUTPUTS


PIA-C
38,107,166
DELAY
6,7,77
POA-C
MY
224
LO
90
L1
152
GMAA-B,GMAO-5
GMBA-B,GMBO-5
GMCA-B,GMCO-5
GMDA-B,GMDO-5
48,53-60,
116-125,
174-182
225,227,
229,231
BLACK
GAMMA
ON/OFF
61-69,126-134,
183-191,233
IRAO-7
IRBO-7
IRCO-7
IRDO-7
234,236,237,239
DETAIL
ONLY
ON/OFF
SOFT
LIMITER
DETAIL
ON/OFF
MIX/
Y MATRIX
MODE
SELECT
8-10,12-27,
30-34,80,
82-84,88,
89,92,94,
96,98,99
102,104,
105
ROAA-B,ROAO-7
ROBA-B,ROBO-7
ROCA-B,ROCO-7
RODA-B,RODO-7
28,29,85-87,91,
93,95,97,100,101,
103,146-151
ENAA-B,ENAO-7
ENBA-B,ENBO-7
ENCA-B,ENCO-7
ENDA-B,ENDO-7
153-157,159-165,
200,201,203,205,
207,209,210,212,
213,215
IGAO-7
IGBO-7
IGCO-7
IGDO-7
1-5,11,70-76,
78,79,81,
135-145,192,
195,197,198
LIMITER
LIMITER
GATE
COMPARATOR
49
GP
MULTIPLIER
ADDER
39-46,
106,108,
113-115,217
ERO-9
ERA-D
Y
MATRIX
THRESHOLD
DATO-7
109-111,167-170,221
CPU
INTERFACE
52
BLGO
51
BLG1
50
BLG2
AATO-3
47,112,172,173
DECODER
AACS
171
AAWE
222
CK
158
TO EACH BLOCK

CXD1350G (SONY)

C-MOS DETAIL CONTROLLER
– BOTTOM VIEW –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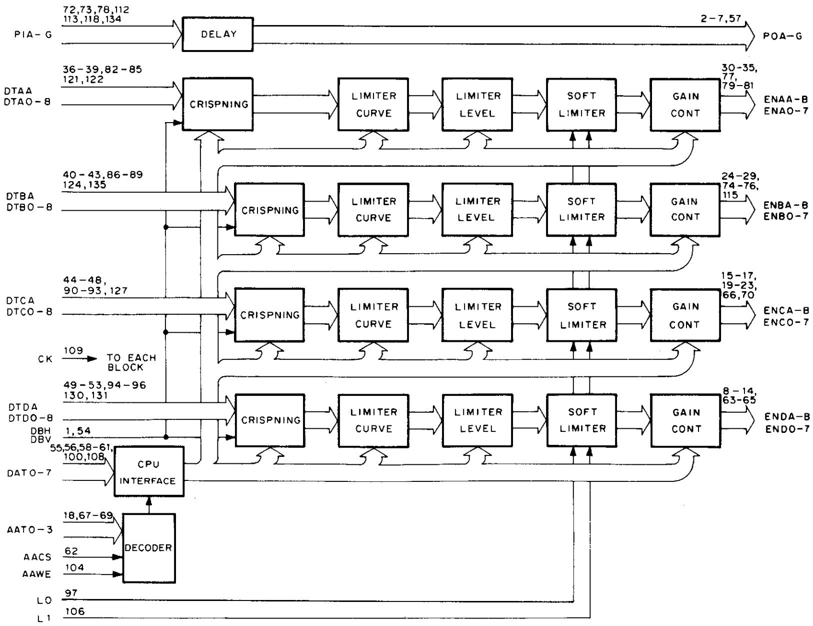
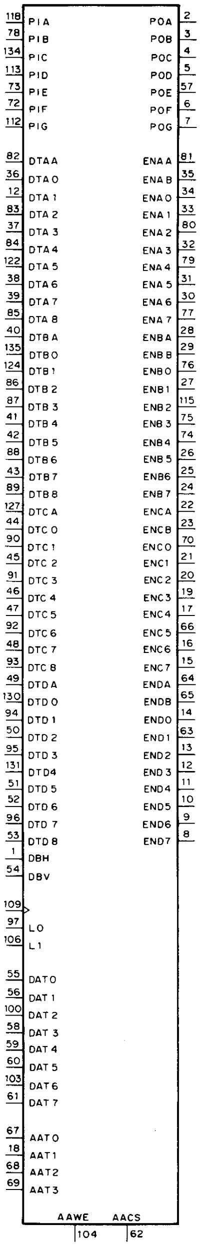
50 95 132 133 107 66 17
49 94 131 108 67 18
48 93 130 109 68 19
47 92 129 110 69 20
46 91 128 111 70 21
45 90 127 112 71 22
44 89 126 113 72 23
43 88 125 135 134 114 73 24
42 87 124 123 122 121 120 119 118 117 116 115 74 25
41 86 85 84 83 82 81 80 79 78 77 76 75 26
40 39 38 37 36 35 34 33 32 31 30 29 28 27

PIA-G/POA-G : TIMING PULSE INPUTS/OUTPUTS
DTAA, DTA0-8, DTBA, DTB0-8, DTCA, DTC0-8, DTDA, DTD0-8
: DETAIL DATA INPUTS
DAT0-7 : CPU DATA INPUTS
AAT0-3 : CPU ADDRESS DATA INPUTS
AACS : CHIP SELECT INPUT
AAWE : WRITE ENABLE INPUT
L0, L1 : SOFT LIMITER LEVEL SELECT INPUT
DBH, DBV : DETAIL BLANKING INPUT
ENAA, ENAB, ENA0-7, ENBA, ENBB, ENB0-7, ENCA, ENCB, ENC0-7, ENDA, ENDB,
END0-7 : DETAIL DATA OUTPUTS


PIA-G
72,73,78,112 113,118,134
DELAY
2-7,57
POA-G
DTAA DTA0-8
36-39,82-85 121,122
CRISPNING
LIMITER CURVE
LIMITER LEVEL
SOFT LIMITER
GAIN CONT
30-35, 77, 79-81
ENAA-B ENA0-7
DTBA DTB0-8
40-43,86-89 124,135
24-29, 74-76, 115
ENBA-B ENB0-7
DTCA DTC0-8
44-48, 90-93,127
15-17, 19-23, 66,70
ENCA-B ENC0-7
CK
109
TO EACH BLOCK
DTDA DTD0-8
49-53,94-96 130,131
8-14, 63-65
ENDA-B END0-7
DBH DBV
1,54
DAT0-7
55,56,58-61, 100,108
CPU INTERFACE
AAT0-3
18,67-69
AACS
62
AAWE
104
DECODER
L0
97
L1
106

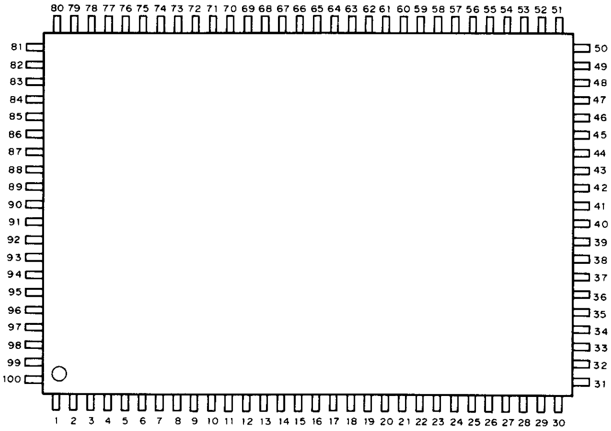

118 PIA
78 PIB
134 PIC
113 PID
73 PIE
72 PIF
112 PIG
82 DTAA
36 DTA0
12 DTA1
83 DTA2
37 DTA3
84 DTA4
122 DTA5
38 DTA6
39 DTA7
85 DTA8
40 DTBA
135 DTB0
124 DTB1
86 DTB2
87 DTB3
41 DTB4
42 DTB5
88 DTB6
43 DTB7
89 DTB8
127 DTCA
44 DTC0
90 DTC1
45 DTC2
91 DTC3
46 DTC4
47 DTC5
92 DTC6
48 DTC7
93 DTC8
49 DTDA
130 DTD0
94 DTD1
50 DTD2
95 DTD3
131 DTD4
51 DTD5
52 DTD6
96 DTD7
53 DTD8
1 DBH
54 DBV
109
97 L0
106 L1
55 DAT0
56 DAT1
100 DAT2
58 DAT3
59 DAT4
60 DAT5
103 DAT6
61 DAT7
67 AAT0
18 AAT1
68 AAT2
69 AAT3
POA 2
POB 3
POC 4
POD 5
POE 57
POF 6
POG 7
ENAA 81
ENAB 35
ENA0 34
ENA1 33
ENA2 80
ENA3 32
ENA4 79
ENA5 31
ENA6 30
ENA7 77
ENBA 28
ENBB 29
ENB0 76
ENB1 27
ENB2 115
ENB3 75
ENB4 74
ENB5 26
ENB6 25
ENB7 24
ENCA 22
ENCB 23
ENC0 70
ENC1 21
ENC2 20
ENC3 19
ENC4 17
ENC5 66
ENC6 16
ENC7 15
ENDA 64
ENDB 65
END0 14
END1 63
END2 13
END3 12
END4 11
END5 10
END6 9
END7 8
AAWE 104
AACS 62

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	DBH	69	I	AAT3
2	O	POA	70	O	ENC0
3	O	POB	71	–	NC
4	O	POC	72	I	PIF
5	O	POD	73	I	PIE
6	O	POF	74	O	ENB4
7	O	POG	75	O	ENB3
8	O	END7	76	O	ENB0
9	O	END6	77	O	ENA7
10	O	END5	78	I	PIB
11	O	END4	79	O	ENA4
12	O	END3	80	O	ENA2
13	O	END2	81	O	ENAA
14	O	END0	82	I	DTAA
15	O	ENC7	83	I	DTA2
16	O	ENC6	84	I	DTA4
17	O	ENC4	85	I	DTA8
18	I	AAT1	86	I	DTB2
19	O	ENC3	87	I	DTB3
20	O	ENC2	88	I	DTB6
21	O	ENC1	89	I	DTB8
22	O	ENCA	90	I	DTC1
23	O	ENCB	91	I	DTC3
24	O	ENB7	92	I	DTC6
25	O	ENB6	93	I	DTC8
26	O	ENB5	94	I	DTD1
27	O	ENB1	95	I	DTD3
28	O	ENBA	96	I	DTD7
29	O	ENBB	97	I	L0
30	O	ENA6	98	–	GND
31	O	ENA5	99	–	VDD
32	O	ENA3	100	I	DAT2
33	O	ENA1	101	–	GND
34	O	ENA0	102	–	VDD
35	O	ENAB	103	I	DAT6
36	I	DTA0	104	I	AAWE
37	I	DTA3	105	–	GND
38	I	DTA6	106	I	L1
39	I	DTA7	107	–	GND
40	I	DTBA	108	–	VDD
41	I	DTB4	109	I	CK
42	I	DTB5	110	–	GND
43	I	DTB7	111	–	VDD
44	I	DTC0	112	I	PIG
45	I	DTC2	113	I	PID
46	I	DTC4	114	–	GND
47	I	DTC5	115	O	ENB2
48	I	DTC7	116	–	GND
49	I	DTDA	117	–	VDD
50	I	DTD2	118	I	PIA
51	I	DTD5	119	–	GND
52	I	DTD6	120	–	VDD
53	I	DTD8	121	I	DTA1
54	I	DBV	122	I	DTA5
55	I	DAT0	123	–	GND
56	I	DAT1	124	I	DTB1
57	O	POE	125	–	GND
58	I	DAT3	126	–	VDD
59	I	DAT4	127	I	DTCA
60	I	DAT5	128	–	GND
61	I	DAT7	129	–	VDD
62	I	AACS	130	I	DTD0
63	O	END1	131	I	DTD4
64	O	ENDA	132	–	GND
65	O	ENDB	133	–	NC
66	O	ENC5	134	I	PIC
67	I	AAT0	135	I	DTB0
68	I	AAT2			

CXD1351M (SONY) FLAT PACKAGE

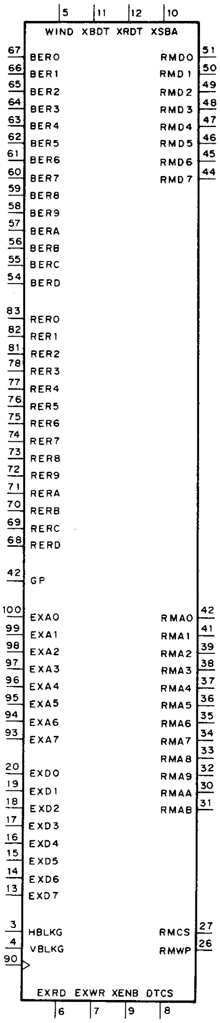
C-MOS REGI ERROR DETECTOR

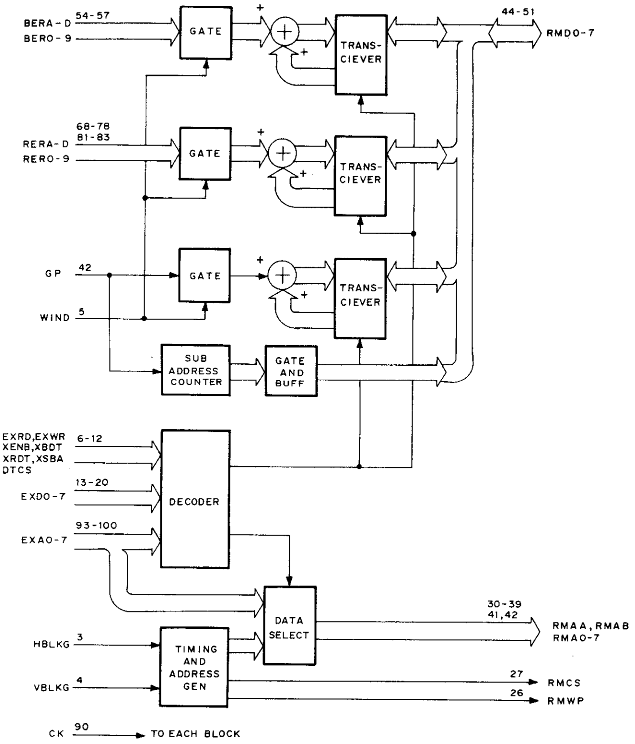
- TOP VIEW -


80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	-	GND	21	-	NC	41	O	RMA1	61	I	BER6	81	I	RER2
2	-	VDD	22	I	GP	42	O	RMA0	62	I	BER5	82	I	RER1
3	I	HBLKG	23	-	NC	43	-	NC	63	I	BER4	83	I	RER0
4	I	VBLKG	24	-	NC	44	O	RMD7	64	I	BER3	84	-	NC
5	I	WIND	25	-	NC	45	O	RMD6	65	I	BER2	85	-	GND
6	I	EXRD	26	O	RMWP	46	O	RMD5	66	I	BER1	86	-	GND
7	I	EXWR	27	O	RMCS	47	O	RMD4	67	I	BER0	87	-	GND
8	I	DTCS	28	-	GND	48	O	RMD3	68	I	RERD	88	-	GND
9	I	XENB	29	-	VDD	49	O	RMD2	69	I	RERC	89	-	GND
10	I	XSBA	30	O	RMAA	50	O	RMD1	70	I	RERB	90	I	CK
11	I	XBDT	31	O	RMAB	51	O	RMD0	71	I	RERA	91	-	NC
12	I	XRDT	32	O	RMA9	52	-	VDD	72	I	RER9	92	-	NC
13	I/O	EXD7	33	O	RMA8	53	-	GND	73	I	RER8	93	I	EXA7
14	I/O	EXD6	34	O	RMA7	54	I	BERD	74	I	RER7	94	I	EXA6
15	I/O	EXD5	35	O	RMA6	55	I	BERC	75	I	RER6	95	I	EXA5
16	I/O	EXD4	36	O	RMA5	56	I	BERB	76	I	RER5	96	I	EXA4
17	I/O	EXD3	37	O	RMA4	57	I	BERA	77	I	RER4	97	I	EXA3
18	I/O	EXD2	38	O	RMA3	58	I	BER9	78	I	RER3	98	I	EXA2
19	I/O	EXD1	39	O	RMA2	59	I	BER8	79	-	VDD	99	I	EXA1
20	I/O	EXD0	40	-	GND	60	I	BER7	80	-	GND	100	I	EXA0

GP ; GATE PULSE INPUT
BER0-9,BERA-D ; BLUE-CH ERROR INPUTS
RER0-9,RERA-D ; RED-CH ERROR INPUTS
RMD0-7 ; RAM DATA INPUTS/OUTPUTS
EXA0-7 ; EXTERNAL ADDRESS INPUTS
EXD0-7 ; EXTERNAL DATA INPUTS
RMAA,RMAB,RMA0-9 ; RAM ADDRESS DATA OUTPUTS
HBLKG ; H BLANKING INPUT
VBLKG ; V BLANKING INPUT
EXRD ; EXTERNAL READ INPUT
EXWR ; EXTERNAL WRITE INPUT
XENB ; ENABLE INPUT
DTCS ; DT CODE SELECT INPUT
RMCS ; RAM CHIP SELECT OUTPUT
RMWP ; RAM WRITE PULSE OUTPUT
WIND ; WINDOW PULSE INPUT
XBDT ; BLUE DATA INPUT
XRDT ; RED DATA INPUT
XSBA ; SUB ADDRESS INPUT

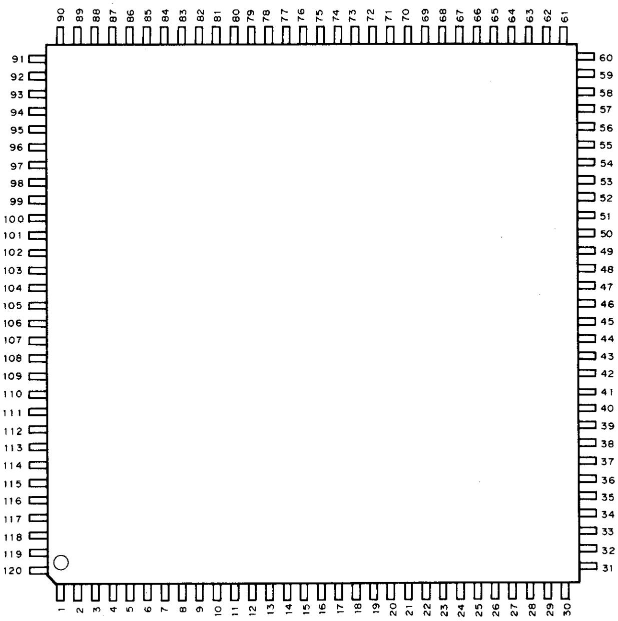

5 11 12 10
WIND XBDT XRDT XSBA
67 BER0
66 BER1
65 BER2
64 BER3
63 BER4
62 BER5
61 BER6
60 BER7
59 BER8
58 BER9
57 BERA
56 BERB
55 BERC
54 BERD
83 RER0
82 RER1
81 RER2
78 RER3
77 RER4
76 RER5
75 RER6
74 RER7
73 RER8
72 RER9
71 RERA
70 RERB
69 RERC
68 RERD
42 GP
100 EXA0
99 EXA1
98 EXA2
97 EXA3
96 EXA4
95 EXA5
94 EXA6
93 EXA7
20 EXD0
19 EXD1
18 EXD2
17 EXD3
16 EXD4
15 EXD5
14 EXD6
13 EXD7
3 HBLKG
4 VBLKG
90
RMD0 51
RMD1 50
RMD2 49
RMD3 48
RMD4 47
RMD5 46
RMD6 45
RMD7 44
RMA0 42
RMA1 41
RMA2 39
RMA3 38
RMA4 37
RMA5 36
RMA6 35
RMA7 34
RMA8 33
RMA9 32
RMAA 30
RMAB 31
RMCS 27
RMWP 26
EXRD EXWR XENB DTCS
6 7 9 8


BERA-D
BER0-9
54-57
GATE
+
+
TRANS-CIEVER
44-51
RMD0-7
68-78
81-83
RERA-D
RER0-9
GATE
TRANS-CIEVER
GP 42
WIND 5
GATE
TRANS-CIEVER
SUB ADDRESS COUNTER
GATE AND BUFF
EXRD,EXWR
XENB,XBDT
XRDT,XSBA
DTCS
6-12
13-20
EXD0-7
DECODER
93-100
EXA0-7
DATA SELECT
30-39
41,42
RMAA,RMAB
RMA0-7
HBLKG 3
VBLKG 4
TIMING AND ADDRESS GEN
27 RMCS
26 RMWP
CK 90
TO EACH BLOCK

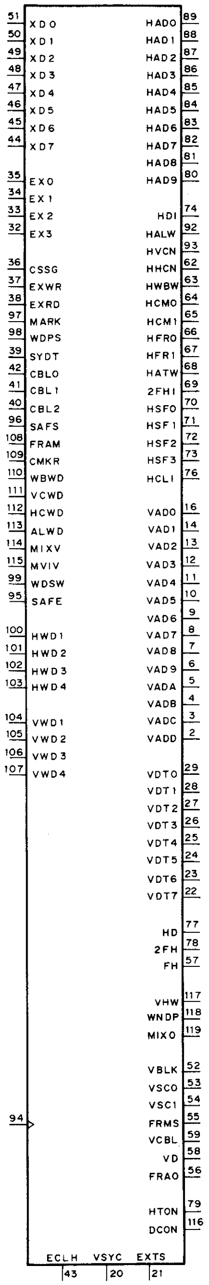
CXD1353M (SONY) FLAT PACKAGE

C-MOS SIGNAL GENERATOR FOR HDVS CAMERA CONTROL UNIT 1

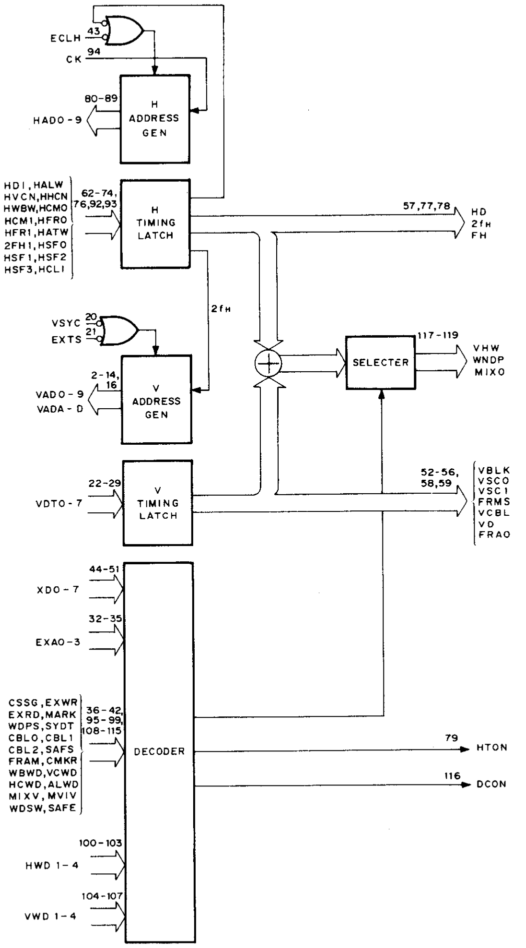
– TOP VIEW –



PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	–	VDD	41	I	CBL1	81	O	HAD8
2	O	VADD	42	I	CBL0	82	O	HAD7
3	O	VADC	43	I	ECLH	83	O	HAD6
4	O	VADB	44	I/O	XD7	84	O	HAD5
5	O	VADA	45	I/O	XD6	85	O	HAD4
6	O	VAD9	46	I/O	XD5	86	O	HAD3
7	O	VAD8	47	I/O	XD4	87	O	HAD2
8	O	VAD7	48	I/O	XD3	88	O	HAD1
9	O	VAD6	49	I/O	XD2	89	O	HAD0
10	O	VAD5	50	I/O	XD1	90	–	VDD
11	O	VAD4	51	I/O	XD0	91	–	GND
12	O	VAD3	52	O	VBLK	92	I	HALW
13	O	VAD2	53	O	VSC0	93	I	HVCN
14	O	VAD1	54	O	VSC1	94	I	CK
15	–	GND	55	O	FRMS	95	I	SAFE
16	O	VAD0	56	O	FRAO	96	I	SAFS
17	–	GND	57	O	FH	97	I	MARK
18	–	GND	58	O	VD	98	I	WDPS
19	–	GND	59	O	VCBL	99	I	WDSW
20	I	VSYC	60	–	GND	100	I	HWD1
21	I	EXTS	61	–	VDD	101	I	HWD2
22	I	VDT7	62	I	HHCN	102	I	HWD3
23	I	VDT6	63	I	HWBW	103	I	HWD4
24	I	VDT5	64	I	HCM0	104	I	VWD1
25	I	VDT4	65	I	HCM1	105	I	VWD2
26	I	VDT3	66	I	HFR0	106	I	VWD3
27	I	VDT2	67	I	HFR1	107	I	VWD4
28	I	VDT1	68	I	HATW	108	I	FRAM
29	I	VDT0	69	I	2FHI	109	I	CMKR
30	–	VDD	70	I	HSF0	110	I	WBWD
31	–	GND	71	I	HSF1	111	I	VCWD
32	I	EXA3	72	I	HSF2	112	I	HCWD
33	I	EXA2	73	I	HSF3	113	I	ALWD
34	I	EXA1	74	I	HDI	114	I	MIXV
35	I	EXA0	75	–	GND	115	I	MVIV
36	I	CSSG	76	I	HCLI	116	O	DCON
37	I	EXWR	77	O	HD	117	O	VHW
38	I	EXRD	78	O	2FH	118	O	WNDP
39	I	SYDT	79	O	HTON	119	O	MIXO
40	I	CBL2	80	O	HAD9	120	–	GND


51 XD0
50 XD1
49 XD2
48 XD3
47 XD4
46 XD5
45 XD6
44 XD7
35 EX0
34 EX1
33 EX2
32 EX3
36 CSSG
37 EXWR
38 EXRD
97 MARK
98 WDPS
39 SYDT
42 CBL0
41 CBL1
40 CBL2
96 SAFS
108 FRAM
109 CMKR
110 WBWD
111 VCWD
112 HCWD
113 ALWD
114 MIXV
115 MVIV
99 WDSW
95 SAFE
100 HWD1
101 HWD2
102 HWD3
103 HWD4
104 VWD1
105 VWD2
106 VWD3
107 VWD4
94
HAD0 89
HAD1 88
HAD2 87
HAD3 86
HAD4 85
HAD5 84
HAD6 83
HAD7 82
HAD8 81
HAD9 80
HDI 74
HALW 92
HVCN 93
HHCN 62
HWBW 63
HCM0 64
HCM1 65
HFR0 66
HFR1 67
HATW 68
2FHI 69
HSF0 70
HSF1 71
HSF2 72
HSF3 73
HCLI 76
VAD0 16
VAD1 14
VAD2 13
VAD3 12
VAD4 11
VAD5 10
VAD6 9
VAD7 8
VAD8 7
VAD9 6
VADA 5
VADB 4
VADC 3
VADD 2
VDT0 29
VDT1 28
VDT2 27
VDT3 26
VDT4 25
VDT5 24
VDT6 23
VDT7 22
HD 77
2FH 78
FH 57
VHW 117
WNDP 118
MIXO 119
VBLK 52
VSCO 53
VSC1 54
FRMS 55
VCBL 59
VD 58
FRAO 56
HTON 79
DCON 116
ECLH 43
VSYC 20
EXTS 21

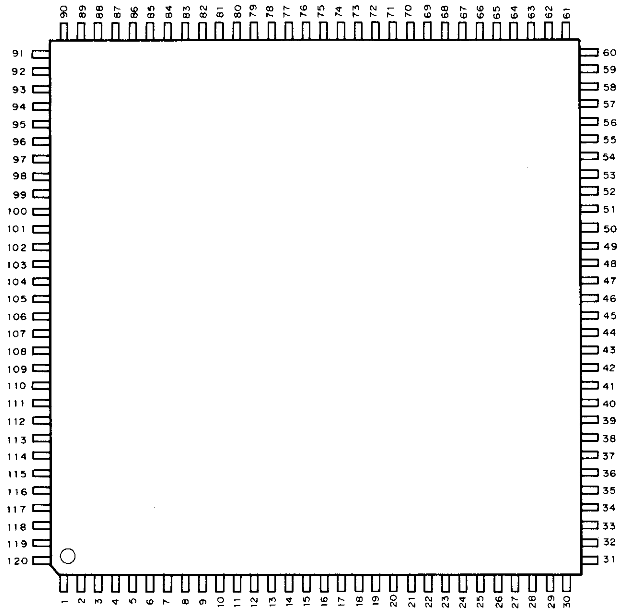
ECLH ; ECL-H IN
HAD0-9 ; H ADDRESS DATA OUTPUTS
HDI ; HD INPUT
HALW ; H ALL WINDOW INPUT
HVCN ; H-V CENTERING INPUT
HHCN ; H-H CENTERING INPUT
HWBW ; H W/B WINDOW INPUT
HCM0,HCM1 ; H CENTER MARKER INPUT
HFR0,HFR1 ; H FRAME INPUT
HATW ; H AUTO WINDOW INPUT
2FHI ; 2FH INPUT
HSF0-3 ; H SAFE WINDOW DATA INPUTS
HCLI ; H CLEAR INPUT
VSYC ; V SYNC INPUT
EXTS ; EXTERNAL SYNC INPUT
VAD0-9,VADA-D ; V ADDRESS DATA OUTPUTS
VDT0-7 ; V DATA INPUTS
XD0-7 ; EXTERNAL DATA INPUTS
EXA0-3 ; EXTERNAL ADDRESS DATA INPUTS
HWD1-4 ; H WINDOW DATA INPUTS
VWD1-4 ; V WINDOW DATA INPUTS
CSSG ; CARD SELECT SG INPUT
EXWR ; EXTERNAL WRITE INPUT
EXRD ; EXTERNAL READ INPUT
MARK ; MARK INPUT
WDPS ; WINDOW PULSE SELECT INPUT
SYDT ; SYNC DETECT INPUT
CBL0-2 ; CABLE DATA INPUT
SAFS ; SAFE WINDOW SELECT INPUT
FRAM ; FRAME
CMKR ; CENTER MARKER INPUT
WBWD ; W/B WINDOW INPUT
VCWD ; V CENTERING WINDOW INPUT
HCWD ; H CENTERING WINDOW INPUT
ALWD ; ALL WINDOW INPUT
MIXV ; MIX VIDEO INPUT
MVIV ; MIX VIDEO INVERT INPUT
WDSW ; WINDOW SWITCH INPUT
SAFE ; SAFE WINDOW CONT INPUT
HD ; HD OUTPUT
2FH ; 2FH OUTPUT
FH ; FH OUTPUT
VHW ; V-H WINDOW OUTPUT
WNDP ; WINDOW PULSE OUTPUT
MIXO ; MIX VIDEO OUTPUT
VBLK ; V BLANKING OUTPUT
VSC0,VSC1 ; V SYNC OUTPUT
FRMS ; FRAME V SYNC OUTPUT
VCBL ; V CAMERA BLANKING OUTPUT
VD ; VD OUT
FRAO ; FRAME OUTPUT


ECLH 43
CK 94
80-89
HAD0-9
H ADDRESS GEN
HDI,HALW
HVCN,HHCN
HWBW,HCMO
HCM1,HFRO
HFR1,HATW
2FH1,HSFO
HSF1,HSF2
HSF3,HCLI
62-74, 76,92,93
H TIMING LATCH
57,77,78
HD
2fH
FH
2fH
VSYC 20
EXTS 21
2-14, 16
VAD0-9
VADA-D
V ADDRESS GEN
SELECTER
117-119
VHW
WNDP
MIXO
22-29
VDT0-7
V TIMING LATCH
52-56, 58,59
VBLK
VSCO
VSC1
FRMS
VCBL
VD
FRAO
44-51
XD0-7
32-35
EXA0-3
CSSG,EXWR
EXRD,MARK
WDPS,SYDT
CBLO,CBL1
CBL2,SAFS
FRAM,CMKR
WBWD,VCWD
HCWD,ALWD
MIXV,MVIV
WDSW,SAFE
36-42, 95-99, 108-115
DECODER
79
HTON
116
DCON
100-103
HWD 1-4
104-107
VWD 1-4

CXD1354M (SONY) FLAT PACKAGE

C-MOS REGI ERROR COMPENSATOR

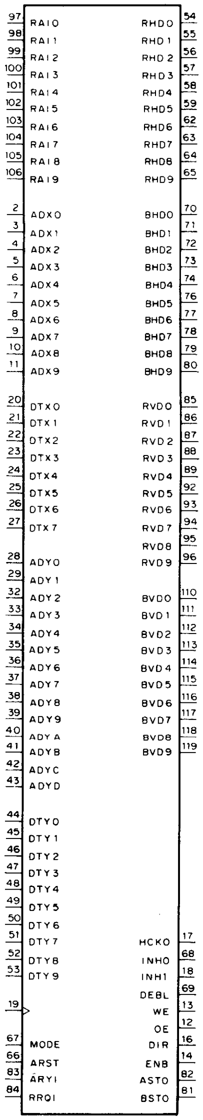
– TOP VIEW –

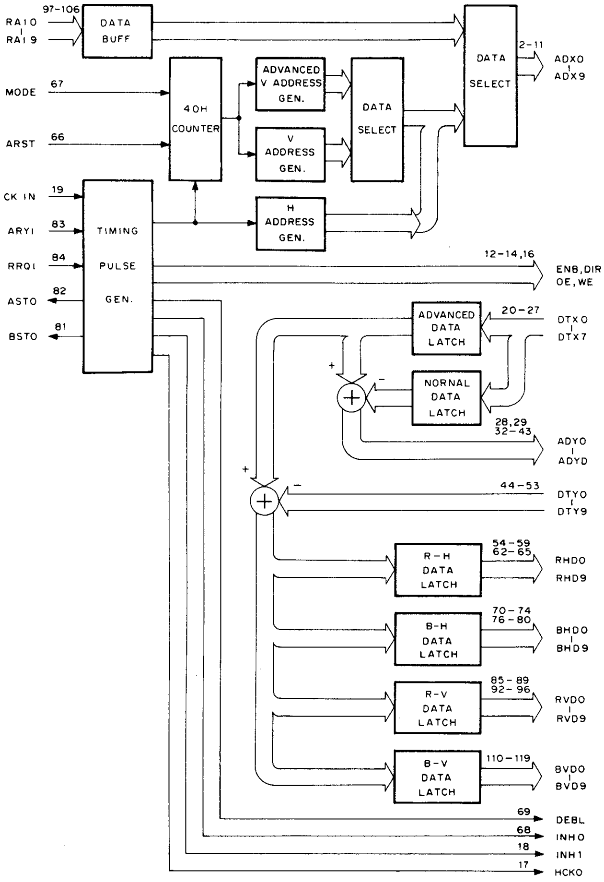

90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61
91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120
60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	-	VDD	41	O	ADYB	81	O	BSTO
2	O	ADX0	42	O	ADYC	82	O	ASTO
3	O	ADX1	43	O	ADYD	83	I	ARYI
4	O	ADX2	44	I	DTY0	84	I	RRQI
5	O	ADX3	45	I	DTY1	85	O	RVD0
6	O	ADX4	46	I	DTY2	86	O	RVD1
7	O	ADX5	47	I	DTY3	87	O	RVD2
8	O	ADX6	48	I	DTY4	88	O	RVD3
9	O	ADX7	49	I	DTY5	89	O	RVD4
10	O	ADX8	50	I	DTY6	90	-	VDD
11	O	ADX9	51	I	DTY7	91	-	GND
12	O	OE	52	I	DTY8	92	O	RVD5
13	O	WE	53	I	DTY9	93	O	RVD6
14	O	ENB	54	O	RHD0	94	O	RVD7
15	-	GND	55	O	RHD1	95	O	RVD8
16	O	DIR	56	O	RHD2	96	O	RVD9
17	O	HCKO	57	O	RHD3	97	I	RAI0
18	O	INH1	58	O	RHD4	98	I	RAI1
19	I	CKIN	59	O	RHD5	99	I	RAI2
20	I	DTX0	60	-	GND	100	I	RAI3
21	I	DTX1	61	-	VDD	101	I	RAI4
22	I	DTX2	62	O	RHD6	102	I	RAI5
23	I	DTX3	63	O	RHD7	103	I	RAI6
24	I	DTX4	64	O	RHD8	104	I	RAI7
25	I	DTX5	65	O	RHD9	105	I	RAI8
26	I	DTX6	66	I	ARST	106	I	RAI9
27	I	DTX7	67	I	MODE	107	-	GND
28	O	ADY0	68	O	INH0	108	-	GND
29	O	ADY1	69	O	DEBL	109	-	GND
30	-	VDD	70	O	BHD0	110	O	BVD0
31	-	GND	71	O	BHD1	111	O	BVD1
32	O	ADY2	72	O	BHD2	112	O	BVD2
33	O	ADY3	73	O	BHD3	113	O	BVD3
34	O	ADY4	74	O	BHD4	114	O	BVD4
35	O	ADY5	75	-	GND	115	O	BVD5
36	O	ADY6	76	O	BHD5	116	O	BVD6
37	O	ADY7	77	O	BHD6	117	O	BVD7
38	O	ADY8	78	O	BHD7	118	O	BVD8
39	O	ADY9	79	O	BHD8	119	O	BVD9
40	O	ADYA	80	O	BHD9	120	-	GND

RAI0-9 ; RAM ADDRESS INPUTS
ADX0-9 ; X ADDRESS OUTPUTS
DTX0-7 ; X DATA INPUTS
ADY0-9,ADYA-D ; Y ADDRESS OUTPUTS
DTY0-9 ; Y DATA INPUTS
RHD0-9 ; RED H DATA OUTPUTS
BHD0-9 ; BLUE H DATA OUTPUTS
RVD0-9 ; RED V DATA OUTPUTS
BVD0-9 ; BLUE V DATA OUTPUTS
MODE ; MODE INPUT
ARST ; ADDRESS RESET PULSE INPUT

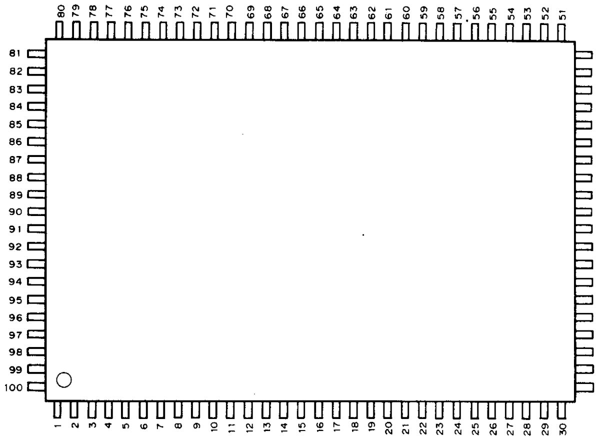
ARYI ; A READY INPUT
RRQI ; READ REQUEST INPUT
HCKO ; H CLOCK OUTPUT
INH0,INH1 ; INHIBIT OUTPUT
DEBL ; DEGRADE OUTPUT
WE ; WRITE ENABLE OUTPUT
OE ; OUTPUT ENABLE OUTPUT
DIR ; DIRECTION OUTPUT
ENB ; ENABLE OUTPUT
ASTO ; A STROBE OUTPUT
BSTO ; B STROBE OUTPUT


97 RAI0
98 RAI1
99 RAI2
100 RAI3
101 RAI4
102 RAI5
103 RAI6
104 RAI7
105 RAI8
106 RAI9
2 ADX0
3 ADX1
4 ADX2
5 ADX3
6 ADX4
7 ADX5
8 ADX6
9 ADX7
10 ADX8
11 ADX9
20 DTX0
21 DTX1
22 DTX2
23 DTX3
24 DTX4
25 DTX5
26 DTX6
27 DTX7
28 ADY0
29 ADY1
32 ADY2
33 ADY3
34 ADY4
35 ADY5
36 ADY6
37 ADY7
38 ADY8
39 ADY9
40 ADYA
41 ADYB
42 ADYC
43 ADYD
44 DTY0
45 DTY1
46 DTY2
47 DTY3
48 DTY4
49 DTY5
50 DTY6
51 DTY7
52 DTY8
53 DTY9
19
67 MODE
66 ARST
83 ARYI
84 RRQI
RHD0 54
RHD1 55
RHD2 56
RHD3 57
RHD4 58
RHD5 59
RHD6 62
RHD7 63
RHD8 64
RHD9 65
BHD0 70
BHD1 71
BHD2 72
BHD3 73
BHD4 74
BHD5 76
BHD6 77
BHD7 78
BHD8 79
BHD9 80
RVD0 85
RVD1 86
RVD2 87
RVD3 88
RVD4 89
RVD5 92
RVD6 93
RVD7 94
RVD8 95
RVD9 96
BVD0 110
BVD1 111
BVD2 112
BVD3 113
BVD4 114
BVD5 115
BVD6 116
BVD7 117
BVD8 118
BVD9 119
HCKO 17
INHO 68
INH1 18
DEBL 69
WE 13
OE 12
DIR 16
ENB 14
ASTO 82
BSTO 81

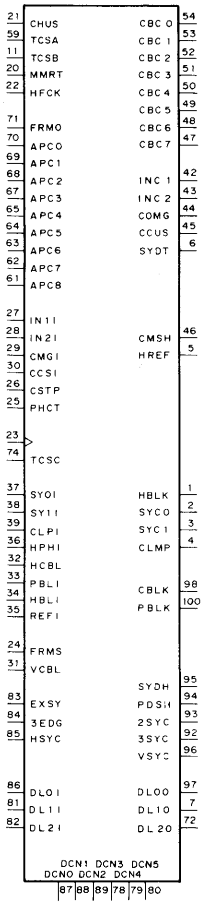

RAI0
RAI9
97-106
DATA BUFF
MODE
67
ARST
66
40H COUNTER
ADVANCED V ADDRESS GEN.
V ADDRESS GEN.
DATA SELECT
DATA SELECT
2-11
ADX0
ADX9
CK IN
19
ARYI
83
RRQI
84
ASTO
82
BSTO
81
TIMING PULSE GEN.
H ADDRESS GEN.
12-14,16
ENB,DIR
OE,WE
ADVANCED DATA LATCH
20-27
DTX0
DTX7
NORNAL DATA LATCH
+
−
28,29
32-43
ADY0
ADYD
+
−
44-53
DTY0
DTY9
R-H DATA LATCH
54-59
62-65
RHD0
RHD9
B-H DATA LATCH
70-74
76-80
BHD0
BHD9
R-V DATA LATCH
85-89
92-96
RVD0
RVD9
B-V DATA LATCH
110-119
BVD0
BVD9
69
DEBL
68
INHO
18
INH1
17
HCKO

CXD1359M (SONY) FLAT PACKAGE

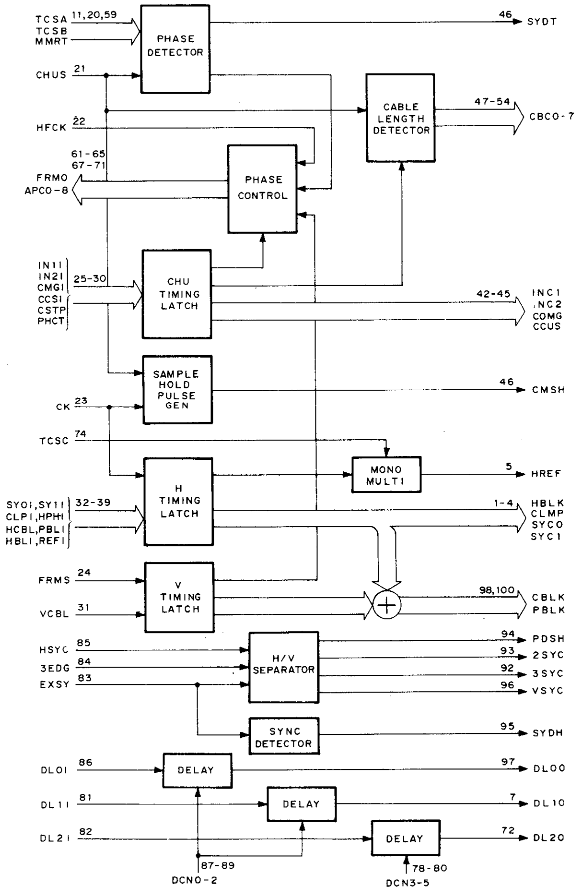
C-MOS SIGNAL GENERATOR FOR HDVS CAMERA CONTROL UNIT 2
- TOP VIEW -


80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

TCSA ; TIME CONSTANT DATA INPUT/OUTPUT
MMRT ; MONOMULTI RESET PULSE INPUT
CHUS ; CHU SYNC INPUT
SYDT ; SYNC DETECT OUTPUT
HFCK ; HALF CLOCK INPUT
CBC0-7 ; CABLE COMPENSATION DATA INPUTS
FRMO ; FRAME PULSE OUTPUT
APC0-8 ; AUTO PHASE CONTROL DATA OUTPUT
IN1I,IN2I ; INCOME PULSE INPUT
CMGI ; COMMAND GATE PULSE INPUT
CCSI ; CCU SYNC INPUT
CSTP ; COUNTER STOP PULSE INPUT
PHCT ; PHASE CONTROL INPUT
INC1,INC2 ; INCOM OUTPUT.
COMG ; COMMAND GATE OUTPUT
CCUS ; CCU SYNC OUTPUT
CMSH ; COMMAND SAMPLE HOLD PULSE OUTPUT
SY0I,SY1I ; SYNC INPUT
CLPI ; CLAMP PULSE INPUT
HPHI ; H PHASE INPUT
HCBL ; H CAMERA BLANKING INPUT
PBLI ; PRE BLANKING INPUT
HBLI ; H BLANKING INPUT
REF ; REFERENCE PHASE INPUT
HBLK ; H BLANKING OUTPUT
CLMP ; CLAMP PULSE OUTPUT
SYC0,SYC1 ; SYNC OUTPUT
FRMS ; FREME SYNC INPUT
VCBL ; V CAMERA BLANKING OUTPUT
CBLK ; CAMERA BLANKING OUTPUT
PBLK ; PRE BLANKING OUTPUT
HSYC ; H SYNC INPUT
3EDG ; 3 EDGE INPUT
EXSY ; EXTERNAL SYNC INPUT
PDSH ; PEDESTAL SAMPLE HOLD PULSE OUTPUT
2SYC,3SYC ; SYNC OUTPUT
VSYC ; V SYNC OUTPUT
SYDH ; H SYNC DETECT OUTPUT
DL0I-2I/DL0O-20 ; DELAY SIGNAL INPUTS/OUTPUTS
DCN0-5 ; DELAY CONTROL INPUTS

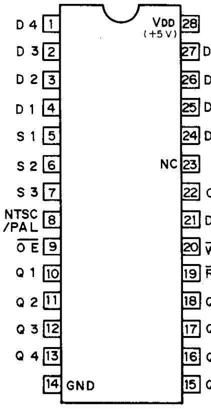

21 CHUS
59 TCSA
11 TCSB
20 MMRT
22 HFCK
71 FRMO
70 APC0
69 APC1
68 APC2
67 APC3
65 APC4
64 APC5
63 APC6
62 APC7
61 APC8
27 IN1I
28 IN2I
29 CMGI
30 CCSI
26 CSTP
25 PHCT
23
74 TCSC
37 SY0I
38 SY1I
39 CLPI
36 HPHI
32 HCBL
33 PBLI
34 HBLI
35 REFI
24 FRMS
31 VCBL
83 EXSY
84 3EDG
85 HSYC
86 DL0I
81 DL1I
82 DL2I
CBC0 54
CBC1 53
CBC2 52
CBC3 51
CBC4 50
CBC5 49
CBC6 48
CBC7 47
INC1 42
INC2 43
COMG 44
CCUS 45
SYDT 6
CMSH 46
HREF 5
HBLK 1
SYC0 2
SYC1 3
CLMP 4
CBLK 98
PBLK 100
SYDH 95
PDSH 94
2SYC 93
3SYC 92
VSYC 96
DL0O 97
DL1O 7
DL2O 72
DCN1 DCN3 DCN5
DCN0 DCN2 DCN4
87 88 89 78 79 80

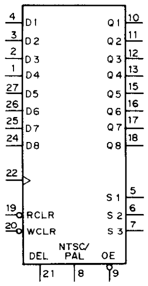
PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	O	HBLK	21	I	CHUS	41	-	VDD	61	O	APC8	81	I	DL1I
2	O	SYNC0	22	I	HFCK	42	O	INC1	62	O	APC7	82	I	DL2I
3	O	SYNC1	23	I	CK	43	O	INC2	63	O	APC6	83	I	EXSY
4	O	CLMP	24	I	FRMS	44	O	COMG	64	O	APC5	84	I	3EDG
5	O	HREF	25	I	PHCT	45	O	CCUS	65	O	APC4	85	I	HSYC
6	O	SYDT	26	I	CSTP	46	O	CMSH	66	-	GND	86	I	DL0I
7	O	DL1O	27	I	IN1I	47	O	CBC7	67	O	APC3	87	I	DCN0
8	-	GND	28	I	IN2I	48	O	CBC6	68	O	APC2	88	I	DCN1
9	-	VDD	29	I	CMGI	49	O	CBC5	69	O	APC1	89	I	DCN2
10	-	NC	30	I	CCSI	50	O	CBC4	70	O	APC0	90	-	GND
11	I/O	TCSB	31	I	VCBL	51	O	CBC3	71	O	FRMO	91	-	VDD
12	-	GND	32	I	HCBL	52	O	CBC2	72	O	DL2O	92	O	3SYC
13	-	NC	33	I	PBLI	53	O	CBC1	73	-	GND	93	O	2SYC
14	-	NC	34	I	HBLI	54	O	CBC0	74	I/O	TCSC	94	O	PDSH
15	-	GND	35	I	REFI	55	-	NC	75	-	GND	95	O	SYDH
16	I	TST0	36	I	HPHI	56	-	NC	76	-	NC	96	O	VSYC
17	I	TST1	37	I	SY0	57	-	GND	77	-	NC	97	O	DL0O
18	I	TST2	38	I	SY1	58	-	VDD	78	I	DCN3	98	O	CBLK
19	I	TST3	39	I	CLPI	59	I/O	TCSA	79	I	DCN4	99	-	GND
20	I	MMRT	40	-	GND	60	-	GND	80	I	DCN5	100	O	PBLK

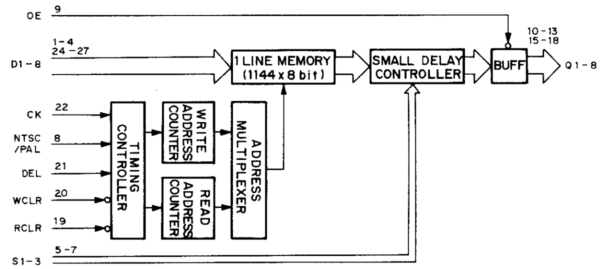

TCSA
TCSB
MMRT
11,20,59
PHASE DETECTOR
46 SYDT
CHUS 21
CABLE LENGTH DETECTOR
47-54 CBC0-7
HFCK 22
61-65
67-71
FRMO
APC0-8
PHASE CONTROL
IN1I
IN2I
CMGI
CCSI
CSTP
PHCT
25-30
CHU TIMING LATCH
42-45
INC1
INC2
COMG
CCUS
SAMPLE HOLD PULSE GEN
46 CMSH
CK 23
TCSC 74
MONO MULTI
5 HREF
SY0I,SY1I
CLPI,HPHI
HCBL,PBLI
HBLI,REFI
32-39
H TIMING LATCH
1-4
HBLK
CLMP
SYC0
SYC1
FRMS 24
VCBL 31
V TIMING LATCH
98,100
CBLK
PBLK
HSYC 85
3EDG 84
EXSY 83
H/V SEPARATOR
94 PDSH
93 2SYC
92 3SYC
96 VSYC
SYNC DETECTOR
95 SYDH
DL0I 86
DELAY
97 DL0O
DL1I 81
DELAY
7 DL1O
DL2I 82
DELAY
72 DL2O
87-89
DCN0-2
78-80
DCN3-5

CXK1202S (SONY)

C-MOS DIGITAL DELAY LINE
- TOP VIEW -


D4 1
D3 2
D2 3
D1 4
S1 5
S2 6
S3 7
NTSC/PAL 8
OE 9
Q1 10
Q2 11
Q3 12
Q4 13
14 GND
VDD (+5V) 28
27 D5
26 D6
25 D7
24 D8
NC 23
22 CK
21 DEL
20 WCLR
19 RCLR
18 Q8
17 Q7
16 Q6
15 Q5

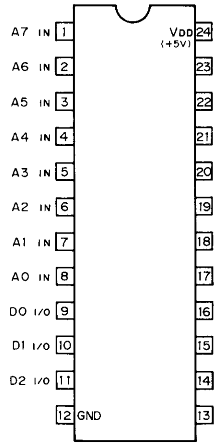

4 D1
3 D2
2 D3
1 D4
27 D5
26 D6
25 D7
24 D8
22
19 RCLR
20 WCLR
Q1 10
Q2 11
Q3 12
Q4 13
Q5 15
Q6 16
Q7 17
Q8 18
S1 5
S2 6
S3 7
DEL NTSC/PAL OE
21 8 9

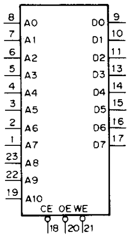

OE 9
D1-8
1-4
24-27
1 LINE MEMORY (1144 x 8 bit)
SMALL DELAY CONTROLLER
BUFF
10-13
15-18
Q1-8
CK 22
NTSC/PAL 8
DEL 21
WCLR 20
RCLR 19
TIMING CONTROLLER
WRITE ADDRESS COUNTER
READ ADDRESS COUNTER
ADDRESS MULTIPLEXER
S1-3 5-7

CXK5816M-15L (SONY) (ACCESS TIME 150nS)

C-MOS 16K (2Kx8-BIT) STATIC RAM

– TOP VIEW –


A7 IN 1
A6 IN 2
A5 IN 3
A4 IN 4
A3 IN 5
A2 IN 6
A1 IN 7
A0 IN 8
D0 I/O 9
D1 I/O 10
D2 I/O 11
12 GND
VDD (+5V) 24
23 A8 IN
22 A9 IN
21 WE IN
20 OE IN
19 A10 IN
18 CE IN
17 D7 I/O
16 D6 I/O
15 D5 I/O
14 D4 I/O
13 D3 I/O

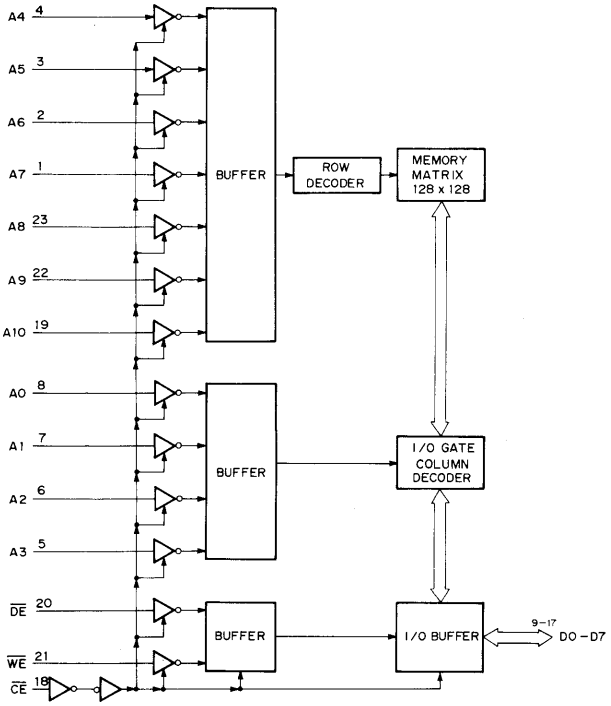

8 A0
7 A1
6 A2
5 A3
4 A4
3 A5
2 A6
1 A7
23 A8
22 A9
19 A10
D0 9
D1 10
D2 11
D3 13
D4 14
D5 15
D6 16
D7 17
CE OE WE
18 20 21

A0–A10 ; ADDRESS INPUTS
CE ; CHIP ENABLE INPUT
D0–D7 ; DATA INPUTS/OUTPUTS
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

MODE SELECTION

CONTROL INPUTS			MODE
CE	DE	WE	
1	X	X	NO CHANGE
0	1	1	DISABLE OUTPUT
0	0	1	READ
0	1	0	WRITE

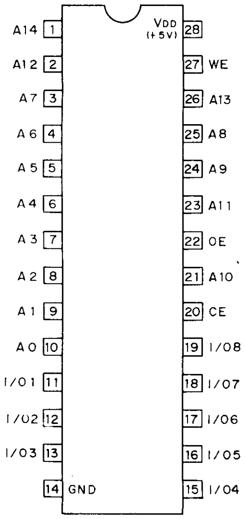
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

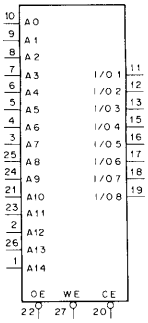

A4 4
A5 3
A6 2
A7 1
A8 23
A9 22
A10 19
A0 8
A1 7
A2 6
A3 5
DE 20
WE 21
CE 18
BUFFER
ROW DECODER
MEMORY MATRIX 128 x 128
BUFFER
I/O GATE COLUMN DECODER
BUFFER
I/O BUFFER
9–17
D0–D7

CXK58257M-12L (SONY) (ACCESS TIME = 120nS)

C-MOS 256K (32768x8)-BIT STATIC RAM

– TOP VIEW –

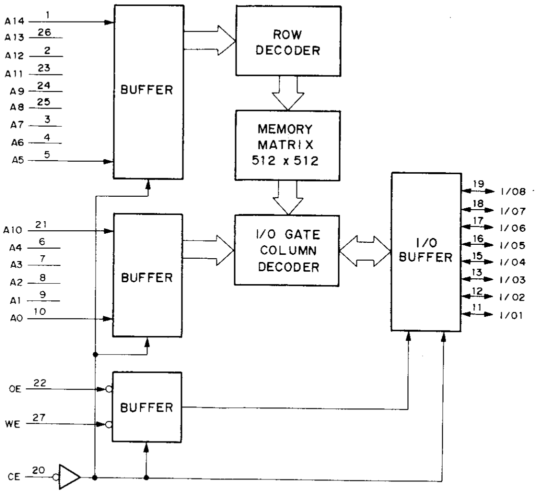

A14 1
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
I/O1 11
I/O2 12
I/O3 13
14 GND
VDD (+5V) 28
27 WE
26 A13
25 A8
24 A9
23 A11
22 OE
21 A10
20 CE
19 I/O8
18 I/O7
17 I/O6
16 I/O5
15 I/O4


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
26 A13
1 A14
I/O1 11
I/O2 12
I/O3 13
I/O4 15
I/O5 16
I/O6 17
I/O7 18
I/O8 19
OE WE CE
22 27 20

A0 – A14 : ADDRESS INPUTS
CE : CHIP ENABLE INPUT
I/O1 – I/O8 : DATA INPUTS/OUTPUTS
OE : OUTPUT ENABLE INPUT
WE : WRITE ENABLE INPUT

CE	OE	WE	MODE	I/O TERMINAL
1	×	×	NOT SELECT	HIGH IMPEDANCE
0	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	0	1	READ	OUTPUT DATA
0	×	0	WRITE	INPUT DATA

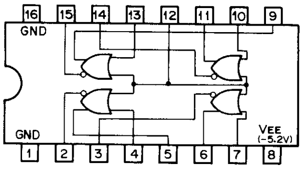
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

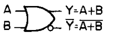

A14 1
A13 26
A12 2
A11 23
A9 24
A8 25
A7 3
A6 4
A5 5
BUFFER
ROW DECODER
MEMORY MATRIX 512 x 512
A10 21
A4 6
A3 7
A2 8
A1 9
A0 10
BUFFER
I/O GATE COLUMN DECODER
I/O BUFFER
19 I/O8
18 I/O7
17 I/O6
16 I/O5
15 I/O4
13 I/O3
12 I/O2
11 I/O1
OE 22
WE 27
BUFFER
CE 20

HD10101 (HITACHI)
MC10101L (MOTOROLA)
MC10H101L (MOTOROLA)

ECL 2-INPUT OR/NOR GATE

– TOP VIEW –


16 15 14 13 12 11 10 9
GND
GND
VEE (–5.2V)
1 2 3 4 5 6 7 8

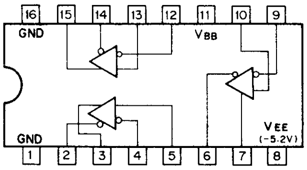

A
B
Y=A+B
$\overline{Y}=\overline{A+B}$

A	B	Y	$\overline{Y}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

0;LOW LEVEL
1;HIGH LEVEL

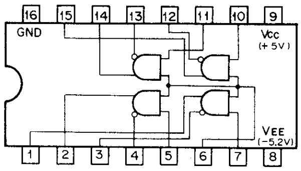
HD10116 (HITACHI)
MC10116L (MOTOROLA)
MC10H116L (MOTOROLA)

ECL DIFFERENTIAL OR/NOR LINE RECEIVER
– TOP VIEW –


16
15
14
13
12
11
10
9
GND
VBB
GND
VEE
(-5.2V)
1
2
3
4
5
6
7
8

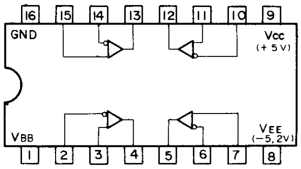
HD10124 (HITACHI)
MC10H124L (MOTOROLA)

ECL TTL-TO-ECL TRANSLATOR
– TOP VIEW –


16
15
14
13
12
11
10
9
GND
Vcc
(+5V)
VEE
(-5.2V)
1
2
3
4
5
6
7
8

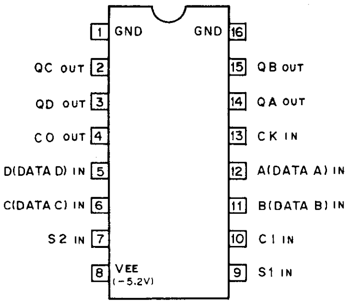
HD10125 (HITACHI)
MC10125L (MOTOROLA)

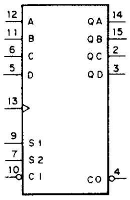
ECL ECL-TO-TTL TRANSLATOR
– TOP VIEW –


16
15
14
13
12
11
10
9
GND
Vcc
(+5V)
VBB
VEE
(-5.2V)
1
2
3
4
5
6
7
8

HD10136 (HITACHI)

ECL PROGRAMMABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER
– TOP VIEW –


1 GND
QC OUT 2
QD OUT 3
CO OUT 4
D(DATA D) IN 5
C(DATA C) IN 6
S2 IN 7
8 VEE (-5.2V)
GND 16
15 QB OUT
14 QA OUT
13 CK IN
12 A(DATA A) IN
11 B(DATA B) IN
10 CI IN
9 S1 IN


12 A
11 B
6 C
5 D
13
9 S1
7 S2
10 CI
QA 14
QB 15
QC 2
QD 3
CO 4

MODE SELECTION

INPUTS			MODE
S1	S2	CI	
0	0	X	PRESET (LOAD)
0	1	0	COUNT UP
1	0	0	COUNT DOWN
1	1	X	COUNT HOLD
X	X	1	COUNT DISABLE

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

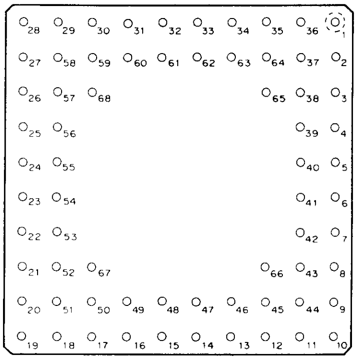
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

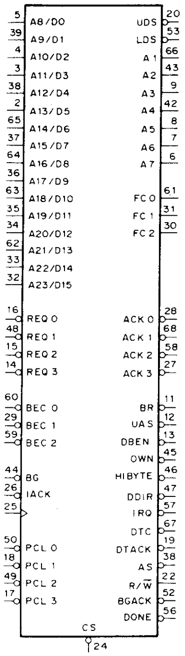
CO GOES LOW WHEN COUNT GOES "15" AT UP-COUNT OR WHEN COUNT GOES "0" AT DOWN COUNT OR WHEN THE COUNTER IS BEING PRESET.

CI INPUT ALLOWS SEVERAL DEVICES TO BE CASCADED IN A FULLY SYNCHRONOUS MULTISTAGE COUNTER.

HD63450Y8 (8MHz) (HITACHI)

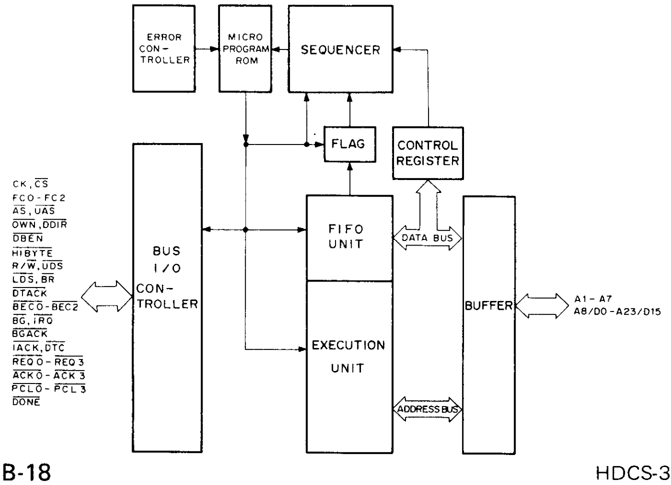
C-MOS DIRECT MEMORY ACCESS CONTROLLER
– BOTTOM VIEW –


28 29 30 31 32 33 34 35 36 1
27 58 59 60 61 62 63 64 37 2
26 57 68 65 38 3
25 56 39 4
24 55 40 5
23 54 41 6
22 53 42 7
21 52 67 66 43 8
20 51 50 49 48 47 46 45 44 9
19 18 17 16 15 14 13 12 11 10


5 A8/D0
39 A9/D1
4 A10/D2
3 A11/D3
38 A12/D4
2 A13/D5
65 A14/D6
37 A15/D7
64 A16/D8
36 A17/D9
63 A18/D10
35 A19/D11
34 A20/D12
62 A21/D13
33 A22/D14
32 A23/D15
16 REQ 0
48 REQ 1
15 REQ 2
14 REQ 3
60 BEC 0
29 BEC 1
59 BEC 2
44 BG
26 IACK
25
50 PCL 0
18 PCL 1
49 PCL 2
17 PCL 3
UDS 20
LDS 53
A1 66
A2 43
A3 9
A4 42
A5 8
A6 7
A7 6
FC0 61
FC1 31
FC2 30
ACK 0 28
ACK 1 68
ACK 2 58
ACK 3 27
BR 11
UAS 12
DBEN 13
OWN 45
HIBYTE 46
DDIR 47
IRQ 57
DTC 67
DTACK 19
AS 38
R/W 22
BGACK 52
DONE 56
CS 24

A1-A7 ; 3-STATE ADDRESS BUS INPUTS/OUTPUTS
A8/D0-A23/D15 ; ADDRESS/DATA BUS INPUTS/OUTPUTS
FC0-FC2 ; 3-STATE FUNCTION CODE OUTPUTS
$\overline{\text{CS}}$; CHIP SELECT INPUT
$\overline{\text{AS}}$; ADDRESS STROBE INPUT/OUTPUT
$\overline{\text{UAS}}$; 3-STATE UPPER ADDRESS OUTPUT
$\overline{\text{DDIR}}$; 3-STATE DATA DIRECTION OUTPUT
$\overline{\text{DBEN}}$; 3-STATE DATA BUS ENABLE OUTPUT
$\overline{\text{UDS}}$; 3-STATE UPPER DATA STROBE INPUT/OUTPUT
$\overline{\text{LDS}}$; 3-STATE LOWER DATA STROBE INPUT/OUTPUT
$\overline{\text{DTACK}}$; DATA TRANSFER ACKNOWLEDGE INPUT/OUTPUT
$\overline{\text{BEC0}}$-$\overline{\text{BEC2}}$; BUS EXCEPTION CONTROL INPUTS
$\overline{\text{BR}}$; BUS REQUEST OUTPUT
$\overline{\text{BG}}$; BUS GRANT INPUT
$\overline{\text{BGACK}}$; 3-STATE BUS GRANT ACKNOWLEDGE INPUT/OUTPUT
$\overline{\text{IRQ}}$; INTERRUPT REQUEST OUTPUT
$\overline{\text{IACK}}$; INTERRUPT ACKNOWLEDGE INPUT
$\overline{\text{REQ0}}$-$\overline{\text{REQ3}}$; CHANNEL REQUEST INPUTS
$\overline{\text{ACK0}}$-$\overline{\text{ACK3}}$; CHANNEL ACKNOWLEDGE OUTPUTS
$\overline{\text{PCL0}}$-$\overline{\text{PCL3}}$; 3-STATE PERIPHERAL CONTROL INPUTS/OUTPUTS
$\overline{\text{DTC}}$; 3-STATE DATA TRANSFER COMPLETE

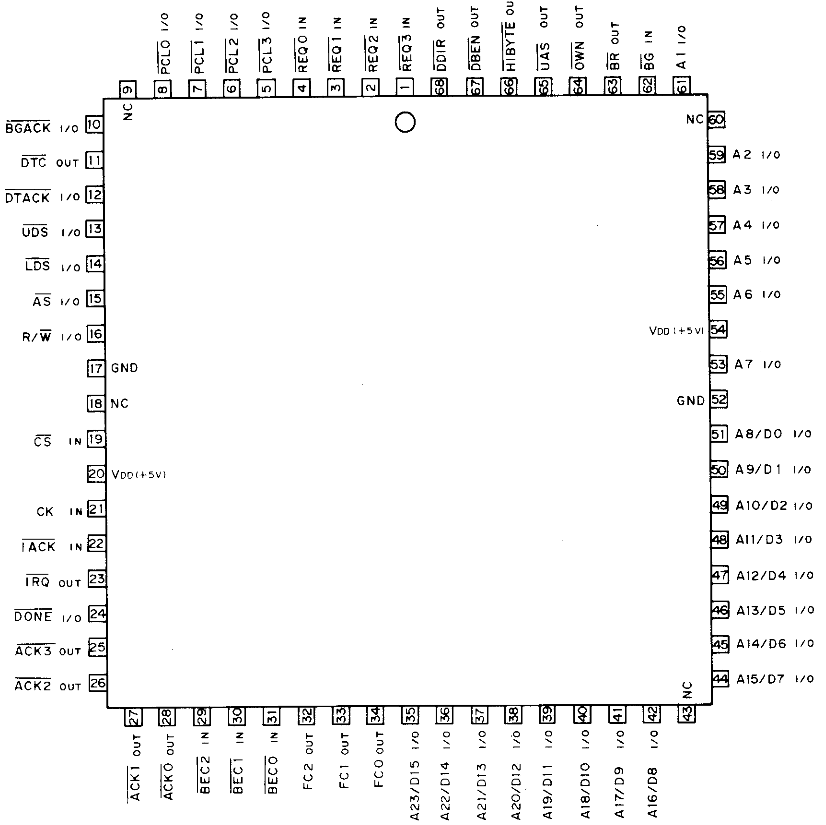
PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	–	NC	18	I/O	PCL1	35	I/O	A19/D11	52	I/O	BGACK
2	I/O	A13/D5	19	I/O	DTACK	36	I/O	A17/D9	53	I/O	LDS
3	I/O	A11/D3	20	I/O	UDS	37	I/O	A15/D7	54	–	GND
4	I/O	A10/D2	21	I/O	AS	38	I/O	A12/D4	55	–	Vcc(+5V)
5	I/O	A8/D0	22	I/O	R/W	39	I/O	A9/D1	56	I/O	DONE
6	I/O	A7	23	–	NC	40	–	GND	57	O	IRQ
7	I/O	A6	24	I	CS	41	–	Vcc(+5V)	58	O	ACK2
8	I/O	A5	25	I	CK	42	I/O	A4	59	I	BEC2
9	I/O	A3	26	I	IACK	43	I/O	A2	60	I	BEC0
10	–	NC	27	O	ACK3	44	I	BG	61	O	FC0
11	O	BR	28	O	ACK0	45	O	OWN	62	I/O	A21/D13
12	O	UAS	29	I	BEC1	46	O	HIBYTE	63	I/O	A18/D10
13	O	DBEN	30	O	FC2	47	O	DDIR	64	I/O	A16/D8
14	I	REQ3	31	O	FC1	48	I	REQ1	65	I/O	A14/D6
15	I	REQ2	32	I/O	A23/D15	49	I/O	PCL2	66	I/O	A1
16	I	REQ0	33	I/O	A22/D14	50	I/O	PCL0	67	O	DTC
17	I/O	PCL3	34	I/O	A20/D12	51	–	NC	68	O	ACK1

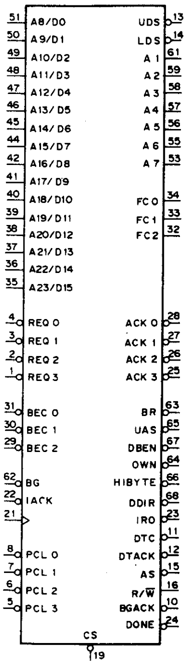

ERROR CON-TROLLER
MICRO PROGRAM ROM
SEQUENCER
FLAG
CONTROL REGISTER
BUS I/O CON-TROLLER
FIFO UNIT
DATA BUS
EXECUTION UNIT
ADDRESS BUS
BUFFER
CK, CS
FC0-FC2
AS, UAS
OWN, DDIR
DBEN
HIBYTE
R/W, UDS
LDS, BR
DTACK
BEC0-BEC2
BG, IRQ
BGACK
IACK, DTC
REQ0-REQ3
ACK0-ACK3
PCL0-PCL3
DONE
A1-A7
A8/D0-A23/D15

HD63450CP10 (10MHz) (HITACHI)

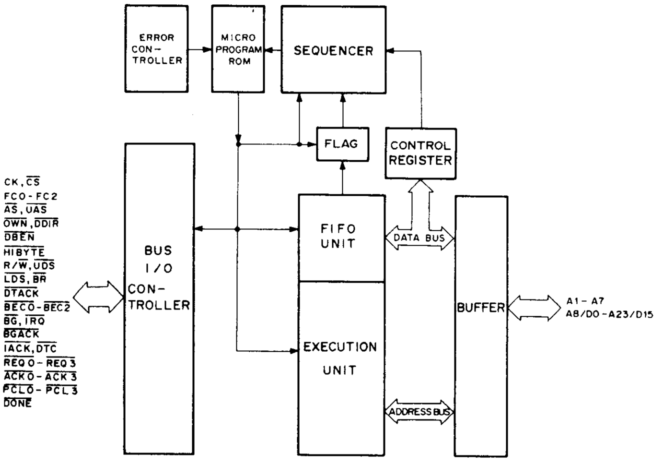
C-MOS DIRECT MEMORY ACCESS CONTROLLER

– TOP VIEW –


9 NC
8 PCL0 I/O
7 PCL1 I/O
6 PCL2 I/O
5 PCL3 I/O
4 REQ0 IN
3 REQ1 IN
2 REQ2 IN
1 REQ3 IN
68 DDIR OUT
67 DBEN OUT
66 HIBYTE OUT
65 UAS OUT
64 OWN OUT
63 BR OUT
62 BG IN
61 A1 I/O
10 BGACK I/O
11 DTC OUT
12 DTACK I/O
13 UDS I/O
14 LDS I/O
15 AS I/O
16 R/W I/O
17 GND
18 NC
19 CS IN
20 VDD (+5V)
21 CK IN
22 IACK IN
23 IRQ OUT
24 DONE I/O
25 ACK3 OUT
26 ACK2 OUT
60 NC
59 A2 I/O
58 A3 I/O
57 A4 I/O
56 A5 I/O
55 A6 I/O
54 VDD (+5V)
53 A7 I/O
52 GND
51 A8/D0 I/O
50 A9/D1 I/O
49 A10/D2 I/O
48 A11/D3 I/O
47 A12/D4 I/O
46 A13/D5 I/O
45 A14/D6 I/O
44 A15/D7 I/O
27 ACK1 OUT
28 ACK0 OUT
29 BEC2 IN
30 BEC1 IN
31 BEC0 IN
32 FC2 OUT
33 FC1 OUT
34 FC0 OUT
35 A23/D15 I/O
36 A22/D14 I/O
37 A21/D13 I/O
38 A20/D12 I/O
39 A19/D11 I/O
40 A18/D10 I/O
41 A17/D9 I/O
42 A16/D8 I/O
43 NC

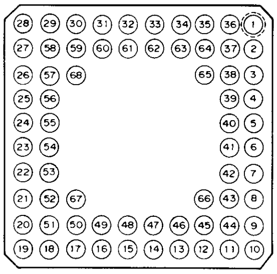

51 A8/D0
50 A9/D1
49 A10/D2
48 A11/D3
47 A12/D4
46 A13/D5
45 A14/D6
44 A15/D7
42 A16/D8
41 A17/D9
40 A18/D10
39 A19/D11
38 A20/D12
37 A21/D13
36 A22/D14
35 A23/D15
4 REQ 0
3 REQ 1
2 REQ 2
1 REQ 3
31 BEC 0
30 BEC 1
29 BEC 2
62 BG
22 IACK
21
8 PCL 0
7 PCL 1
6 PCL 2
5 PCL 3
UDS 13
LDS 14
A 1 61
A 2 59
A 3 58
A 4 57
A 5 56
A 6 55
A 7 53
FC 0 34
FC 1 33
FC 2 32
ACK 0 28
ACK 1 27
ACK 2 26
ACK 3 25
BR 63
UAS 65
DBEN 67
OWN 64
HIBYTE 66
DDIR 68
IRQ 23
DTC 11
DTACK 12
AS 15
R/W 16
BGACK 10
DONE 24
CS 19

A1 – A7 : 3-STATE ADDRESS BUS INPUTS/OUTPUTS
A8/D0 – A23/D15 : ADDRESS/DATA BUS INPUTS/OUTPUTS
FC0 – FC2 : 3-STATE FUNCTION CODE OUTPUTS
CS : CHIP SELECT INPUT
AS : ADDRESS STROBE INPUT/OUTPUT
UAS : 3-STATE UPPER ADDRESS OUTPUT
DDIR : 3-STATE DATA DIRECTION OUTPUT
DBEN : 3-STATE DATA BUS ENABLE OUTPUT
UDS : 3-STATE UPPER DATA STROBE INPUT/OUTPUT
LDS : 3-STATE LOWER DATA STROBE INPUT/OUTPUT
DTACK : DATA TRANSFER ACKNOWLEDGE INPUT/OUTPUT
BEC0 – BEC2 : BUS EXCEPTION CONTROL INPUTS
BR : BUS REQUEST OUTPUT
BG : BUS GRANT INPUT
BGACK : 3-STATE BUS GRANT ACKNOWLEDGE INPUT/OUTPUT
IRQ : INTERRUPT REQUEST OUTPUT
IACK : INTERRUPT ACKNOWLEDGE INPUT
REQ0 – REQ3 : CHANNEL REQUEST INPUTS
ACK0 – ACK3 : CHANNEL ACKNOWLEDGE OUTPUTS
PCL0 – PCL3 : 3-STATE PERIPHERAL CONTROL INPUTS/OUTPUTS
DTC : 3-STATE DATA TRANSFER COMPLETE

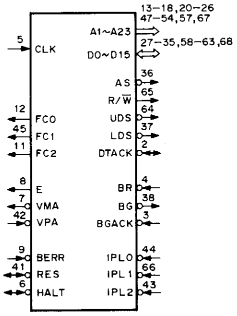

ERROR CON-TROLLER
MICRO PROGRAM ROM
SEQUENCER
FLAG
CONTROL REGISTER
BUS I/O CON-TROLLER
FIFO UNIT
DATA BUS
EXECUTION UNIT
ADDRESS BUS
BUFFER
CK, CS
FC0-FC2
AS, UAS
OWN, DDIR
DBEN
HIBYTE
R/W, UDS
LDS, BR
DTACK
BEC0-BEC2
BG, IRQ
BGACK
IACK, DTC
REQ0-REQ3
ACK0-ACK3
PCL0-PCL3
DONE
A1-A7
A8/D0-A23/D15

HD68000Y8 (HITACHI) (8MHz)

16-BIT MICRO PROCESSING UNIT
- BOTTOM VIEW -


28 29 30 31 32 33 34 35 36 1
27 58 59 60 61 62 63 64 37 2
26 57 68 65 38 3
25 56 39 4
24 55 40 5
23 54 41 6
22 53 42 7
21 52 67 66 43 8
20 51 50 49 48 47 46 45 44 9
19 18 17 16 15 14 13 12 11 10

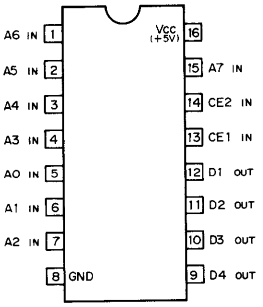
PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME
1	NC	18	A9	35	D1	52	A12
2	$\overline{\text{DTACK}}$	19	NC	36	$\overline{\text{AS}}$	53	A15
3	$\overline{\text{BGACK}}$	20	A14	37	$\overline{\text{LDS}}$	54	A18
4	$\overline{\text{BR}}$	21	A16	38	$\overline{\text{BG}}$	55	VCC(+5V)
5	CLK	22	A17	39	VCC(+5V)	56	GND
6	$\overline{\text{HALT}}$	23	A19	40	GND	57	A23
7	$\overline{\text{VMA}}$	24	A20	41	$\overline{\text{RES}}$	58	D14
8	E	25	A21	42	$\overline{\text{VPA}}$	59	D11
9	$\overline{\text{BERR}}$	26	A22	43	$\overline{\text{IPL2}}$	60	D9
10	NC	27	D15	44	$\overline{\text{IPL0}}$	61	D6
11	FC2	28	D12	45	FC1	62	D3
12	FC0	29	D10	46	NC	63	D0
13	A1	30	D8	47	A2	64	$\overline{\text{UDS}}$
14	A3	31	D7	48	A5	65	R/$\overline{\text{W}}$
15	A4	32	D5	49	A8	66	$\overline{\text{IPL1}}$
16	A6	33	D4	50	A10	67	A13
17	A7	34	D2	51	A11	68	D13

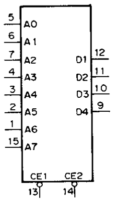

13–18,20–26
47–54,57,67
A1~A23
27–35,58–63,68
D0~D15
5 CLK
36 AS
65 R/W
12 FC0
64 UDS
45 FC1
37 LDS
11 FC2
2 DTACK
8 E
4 BR
7 VMA
38 BG
42 VPA
3 BGACK
9 BERR
44 IPL0
41 RES
66 IPL1
6 HALT
43 IPL2

A1-A23	;ADDRESS BUS
$\overline{\text{AS}}$	;ADDRESS STROBE
$\overline{\text{BERR}}$	;BUS ERROR
$\overline{\text{BG}}$	;BUS GRANT
$\overline{\text{BGACK}}$	;BUS GRANT ACKNOWLEDGE
$\overline{\text{BR}}$	;BUS REQUEST
CLK	;CLOCK
D0-D15	;DATA BUS
$\overline{\text{DTACK}}$	;DATA TRANSFER ACKNOWLEDGE
E	;ENABLE
FC0-FC2	;FUNCTION CODE
$\overline{\text{HALT}}$	;HALT
$\overline{\text{IPL0}}$-$\overline{\text{IPL2}}$	;INTERRUPT CONTROL
$\overline{\text{LDS}}$	;LOWER DATA STROBE
$\overline{\text{RES}}$	;RESET
R/$\overline{\text{W}}$	;READ/WRITE
$\overline{\text{UDS}}$	;UPPER DATA STROBE
$\overline{\text{VMA}}$	;VALID MEMORY ADDRESS
$\overline{\text{VPA}}$	;VALID PERIPHERAL ADDRESS

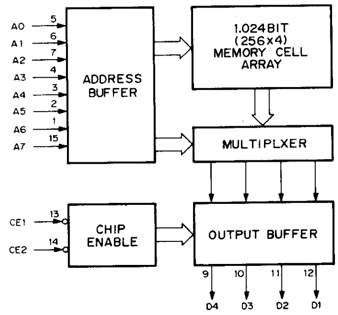
MB7114L (FUJITSU) (ACCESS TIME = 50nS)

1024-BIT (256x4) PROM
- TOP VIEW -


A6 IN 1
A5 IN 2
A4 IN 3
A3 IN 4
A0 IN 5
A1 IN 6
A2 IN 7
8 GND
Vcc (+5V) 16
15 A7 IN
14 CE2 IN
13 CE1 IN
12 D1 OUT
11 D2 OUT
10 D3 OUT
9 D4 OUT

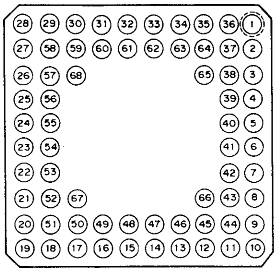

5 A0
6 A1
7 A2
4 A3
3 A4
2 A5
1 A6
15 A7
O1 12
O2 11
O3 10
O4 9
CE1 13
CE2 14

A0-A7 ;ADDRESS INPUTS
D1-D4 ;DATA OUTPUTS
CE1,CE2 ;CHIP ENABLE INPUTS

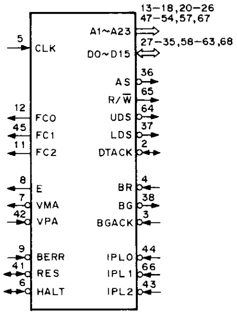

A0 5
A1 6
A2 7
A3 4
A4 3
A5 2
A6 1
A7 15
ADDRESS BUFFER
1.024BIT (256x4) MEMORY CELL ARRAY
MULTIPLXER
CE1 13
CE2 14
CHIP ENABLE
OUTPUT BUFFER
9 10 11 12
D4 D3 D2 D1

HD68HC000Y8 (HITACHI) (8MHz)

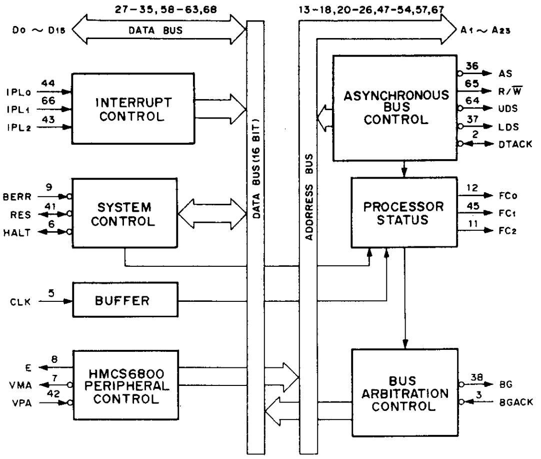
C-MOS 16-BIT MICRO PROCESSING UNIT
- BOTTOM VIEW -


28 29 30 31 32 33 34 35 36 1
27 58 59 60 61 62 63 64 37 2
26 57 68 65 38 3
25 56 39 4
24 55 40 5
23 54 41 6
22 53 42 7
21 52 67 66 43 8
20 51 50 49 48 47 46 45 44 9
19 18 17 16 15 14 13 12 11 10

PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME
1	NC	18	A9	35	D1	52	A12
2	$\overline{\text{DTACK}}$	19	NC	36	$\overline{\text{AS}}$	53	A15
3	$\overline{\text{BGACK}}$	20	A14	37	$\overline{\text{LDS}}$	54	A18
4	$\overline{\text{BR}}$	21	A16	38	$\overline{\text{BG}}$	55	V_{DD} (+5V)
5	CLK	22	A17	39	V_{DD} (+5V)	56	GND
6	$\overline{\text{HALT}}$	23	A19	40	GND	57	A23
7	$\overline{\text{VMA}}$	24	A20	41	$\overline{\text{RES}}$	58	D14
8	E	25	A21	42	$\overline{\text{VPA}}$	59	D11
9	$\overline{\text{BERR}}$	26	A22	43	$\overline{\text{IPL2}}$	60	D9
10	NC	27	D15	44	$\overline{\text{IPL0}}$	61	D6
11	FC2	28	D12	45	FC1	62	D3
12	FC0	29	D10	46	NC	63	D0
13	A1	30	D8	47	A2	64	$\overline{\text{UDS}}$
14	A3	31	D7	48	A5	65	R/$\overline{\text{W}}$
15	A4	32	D5	49	A8	66	$\overline{\text{IPL1}}$
16	A6	33	D4	50	A10	67	A13
17	A7	34	D2	51	A11	68	D13

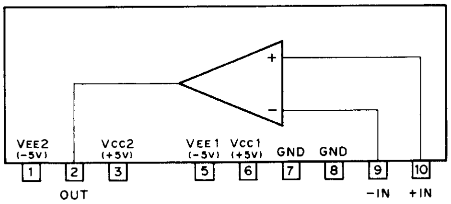

13–18,20–26
47–54,57,67
A1~A23
27–35,58–63,68
D0~D15
5 CLK
36 AS
65 R/W
12 FC0
64 UDS
45 FC1
37 LDS
11 FC2
2 DTACK
8 E
4 BR
7 VMA
38 BG
42 VPA
3 BGACK
9 BERR
44 IPL0
41 RES
66 IPL1
6 HALT
43 IPL2

A1-A23	;ADDRESS BUS
$\overline{\text{AS}}$	;ADDRESS STROBE
$\overline{\text{BERR}}$	;BUS ERROR
$\overline{\text{BG}}$	;BUS GRANT
$\overline{\text{BGACK}}$	;BUS GRANT ACKNOWLEDGE
$\overline{\text{BR}}$	;BUS REQUEST
CLK	;CLOCK
D0-D15	;DATA BUS
$\overline{\text{DTACK}}$	;DATA TRANSFER ACKNOWLEDGE
E	;ENABLE
FC0-FC2	;FUNCTION CODE
$\overline{\text{HALT}}$	;HALT
$\overline{\text{IPL0}}$-$\overline{\text{IPL2}}$	;INTERRUPT CONTROL
$\overline{\text{LDS}}$	;LOWER DATA STROBE
$\overline{\text{RES}}$	;RESET
R/$\overline{\text{W}}$	;READ/WRITE
$\overline{\text{UDS}}$	;UPPER DATA STROBE
$\overline{\text{VMA}}$	;VALID MEMORY ADDRESS
$\overline{\text{VPA}}$	;VALID PERIPHERAL ADDRESS


27–35,58–63,68
D0 ~ D15
DATA BUS
13–18,20–26,47–54,57,67
A1 ~ A23
IPL0 44
IPL1 66
IPL2 43
INTERRUPT CONTROL
DATA BUS (16 BIT)
ADDRESS BUS
ASYNCHRONOUS BUS CONTROL
36 AS
65 R/W
64 UDS
37 LDS
2 DTACK
BERR 9
RES 41
HALT 6
SYSTEM CONTROL
PROCESSOR STATUS
12 FC0
45 FC1
11 FC2
CLK 5
BUFFER
E 8
VMA 7
VPA 42
HMCS6800 PERIPHERAL CONTROL
BUS ARBITRATION CONTROL
38 BG
3 BGACK

HDVA-1 (SOSHIN)

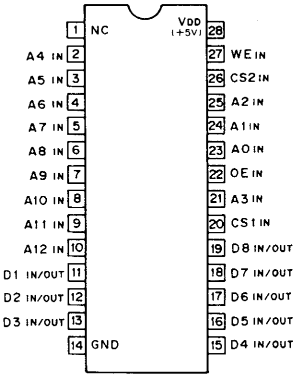
VIDEO AMP
- PRINTED SIDE VIEW -

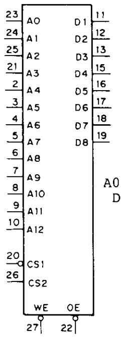

+
−
VEE2 (−5V) 1
2 OUT
Vcc2 (+5V) 3
VEE1 (−5V) 5
Vcc1 (+5V) 6
GND 7
GND 8
9 −IN
10 +IN

MB81C78A-45P (FUJITSU) (ACCESS TIME = 45nS)

C-MOS 64K (8192x8)-BIT STATIC RAM

– TOP VIEW –

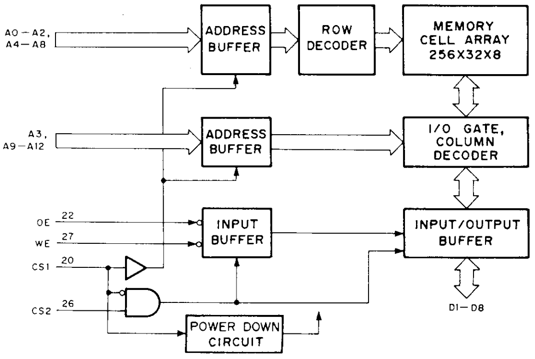

1 NC
2 A4 IN
3 A5 IN
4 A6 IN
5 A7 IN
6 A8 IN
7 A9 IN
8 A10 IN
9 A11 IN
10 A12 IN
11 D1 IN/OUT
12 D2 IN/OUT
13 D3 IN/OUT
14 GND
28 VDD (+5V)
27 WE IN
26 CS2 IN
25 A2 IN
24 A1 IN
23 A0 IN
22 OE IN
21 A3 IN
20 CS1 IN
19 D8 IN/OUT
18 D7 IN/OUT
17 D6 IN/OUT
16 D5 IN/OUT
15 D4 IN/OUT


23 A0
24 A1
25 A2
21 A3
2 A4
3 A5
4 A6
5 A7
6 A8
7 A9
8 A10
9 A11
10 A12
20 CS1
26 CS2
D1 11
D2 12
D3 13
D4 15
D5 16
D6 17
D7 18
D8 19
WE 27
OE 22

A0–A12 ; ADDRESS INPUTS
D1–D8 ; DATA INPUTS/OUTPUTS
CS1 ; CHIP SELECT INPUT 1
CS2 ; CHIP SELECT INPUT 2
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

WE	CS1	CS2	OE	D1–D8	FUNCTIION
X	1	X	X	HI-Z	STAND BY
X	0	0	X	HI-Z	NO SELECTION
1	0	1	1	HI-Z	OUTPUT DISABLE
1	0	1	0	D OUT	READ
0	0	1	X	D IN	WRITE

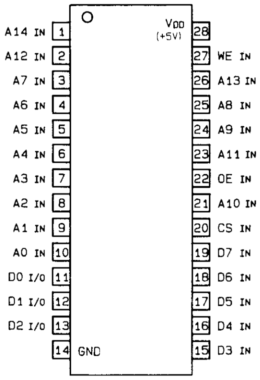
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

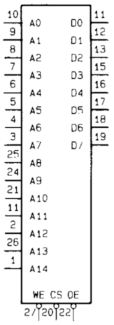

A0 – A2, A4 – A8
ADDRESS BUFFER
ROW DECODER
MEMORY CELL ARRAY 256X32X8
A3, A9 – A12
ADDRESS BUFFER
I/O GATE, COLUMN DECODER
OE 22
WE 27
CS1 20
CS2 26
INPUT BUFFER
INPUT/OUTPUT BUFFER
POWER DOWN CIRCUIT
D1 – D8

MB84256-12LL (FUJITSU) (ACCESS TIME = 120nS)

C-MOS 256K (3768x8)-BIT STATIC RAM

– TOP VIEW –

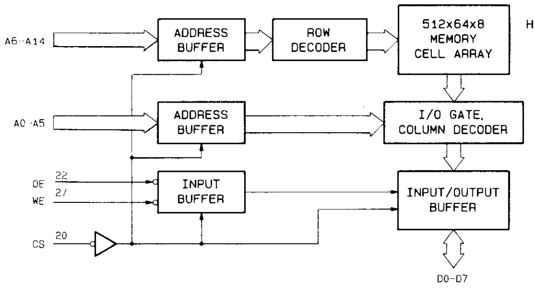

1 A14 IN
2 A12 IN
3 A7 IN
4 A6 IN
5 A5 IN
6 A4 IN
7 A3 IN
8 A2 IN
9 A1 IN
10 A0 IN
11 D0 I/O
12 D1 I/O
13 D2 I/O
14 GND
28 VDD (+5V)
27 WE IN
26 A13 IN
25 A8 IN
24 A9 IN
23 A11 IN
22 OE IN
21 A10 IN
20 CS IN
19 D7 IN
18 D6 IN
17 D5 IN
16 D4 IN
15 D3 IN


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
26 A13
1 A14
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
WE CS OE
27 20 22

A0–A14; ADDRESS INPUTS
D0–D7; DATA INPUTS/OUTPUTS
CS; CHIP SELECT INPUT
OE; OUTPUT ENABLE INPUT
WE; WRITE ENABLE INPUT

CS	OE	WE	OUTPUTS	FUNCTION
1	X	X	HI-Z	NO SELECTION
0	1	1	HI-Z	OUTPUT DISABLE
0	0	1	D OUT	READ
0	X	0	D IN	WRITE

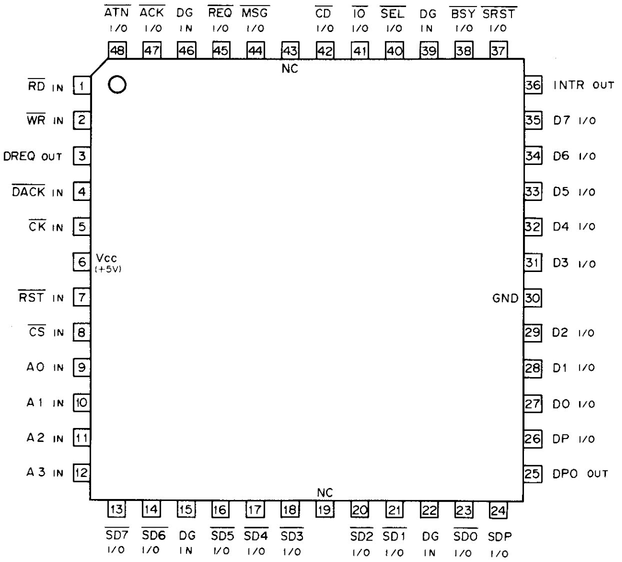
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


A6 · A14
ADDRESS BUFFER
ROW DECODER
512x64x8 MEMORY CELL ARRAY
A0 · A5
ADDRESS BUFFER
I/O GATE, COLUMN DECODER
OE 22
WE 27
INPUT BUFFER
INPUT/OUTPUT BUFFER
CS 20
D0–D7

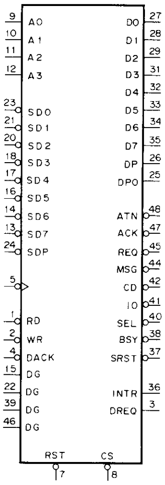
MB89352PFQ (FUJITSU) FLAT PACKAGE

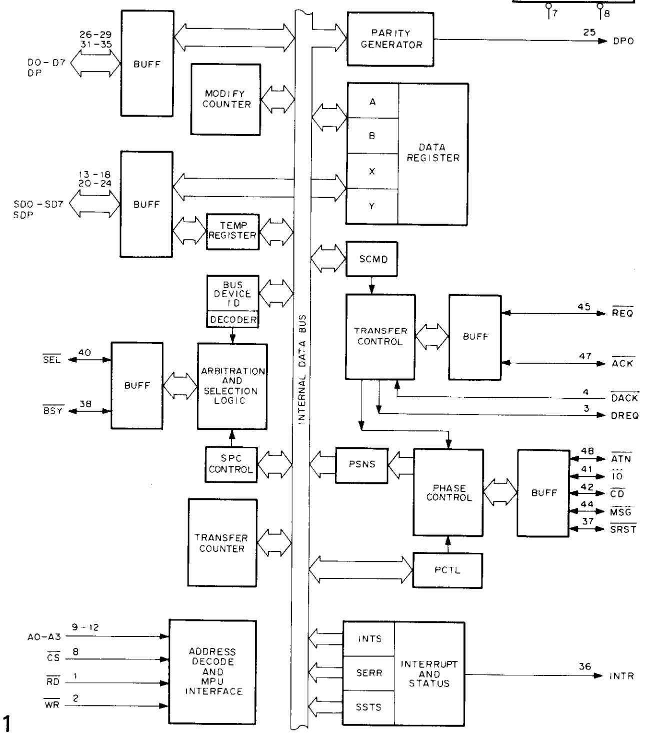
C-MOS SCSI PROTOCOL CONTROLLER

– TOP VIEW –


1 RD IN
2 WR IN
3 DREQ OUT
4 DACK IN
5 CK IN
6 Vcc (+5V)
7 RST IN
8 CS IN
9 A0 IN
10 A1 IN
11 A2 IN
12 A3 IN
13 SD7 I/O
14 SD6 I/O
15 DG IN
16 SD5 I/O
17 SD4 I/O
18 SD3 I/O
19 NC
20 SD2 I/O
21 SD1 I/O
22 DG IN
23 SD0 I/O
24 SDP I/O
25 DPO OUT
26 DP I/O
27 D0 I/O
28 D1 I/O
29 D2 I/O
30 GND
31 D3 I/O
32 D4 I/O
33 D5 I/O
34 D6 I/O
35 D7 I/O
36 INTR OUT
37 SRST I/O
38 BSY I/O
39 DG IN
40 SEL I/O
41 IO I/O
42 CD I/O
43 NC
44 MSG I/O
45 REQ I/O
46 DG IN
47 ACK I/O
48 ATN I/O

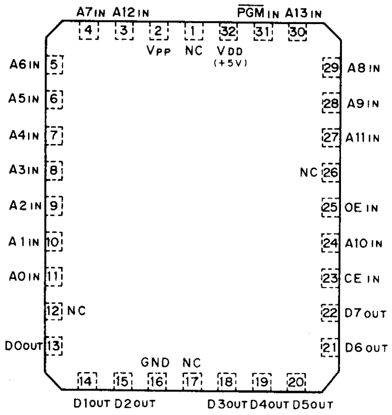
A0–A3 ; ADDRESS INPUTS
D0–D7 ; DATA INPUTS/OUTPUT
DP ; PARITY BIT INPUT
$\overline{SD0}$–$\overline{SD7}$; SCSI DATA INPUTS/OUTPUTS
$\overline{SDP}$; PARITY BIT INPUT
$\overline{RST}$; RESET INPUT
$\overline{CS}$; CHIP SELECT INPUT
$\overline{RD}$; READ INPUTS
$\overline{WR}$; WRITE INPUTS
$\overline{INTR}$; INTERRUPT OUTPUT
$\overline{DACK}$; DATA ACKNOWLEDGE INPUT
$\overline{SRST}$; SCSI RESET INPUT/OUTPUT
DREQ ; DATA REQUEST OUTPUT
$\overline{DPO}$; PARITY OUTPUT
$\overline{SEL}$; SCSI SELECT INPUT/OUTPUT
$\overline{BSY}$; BUSY INPUT/OUTPUT
$\overline{IO}$; DATA DIRECTION INPUT/OUTPUT
$\overline{CD}$; COMMAND INPUT/OUTPUT
$\overline{MSG}$; MESSAGE INPUT/OUTPUT
$\overline{REQ}$; REQUEST INPUT/OUTPUT
$\overline{ACK}$; ACKNOWLEDGE INPUT/OUTPUT
$\overline{ATN}$; ATTENTION CONDITION INPUT/OUTPUT
DG ; DRIVER GROUND

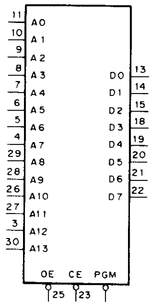

9 A0
10 A1
11 A2
12 A3
23 SD0
21 SD1
20 SD2
18 SD3
17 SD4
16 SD5
14 SD6
13 SD7
24 SDP
5
1 RD
2 WR
4 DACK
15 DG
22 DG
39 DG
46 DG
RST 7
CS 8
D0 27
D1 28
D2 29
D3 31
D4 32
D5 33
D6 34
D7 35
DP 26
DPO 25
ATN 48
ACK 47
REQ 45
MSG 44
CD 42
IO 41
SEL 40
BSY 38
SRST 37
INTR 36
DREQ 3


D0 – D7 DP
26–29 31–35
BUFF
PARITY GENERATOR
25 DPO
MODIFY COUNTER
A
B
X
Y
DATA REGISTER
SD0 – SD7 SDP
13 – 18 20 – 24
BUFF
TEMP REGISTER
SCMD
BUS DEVICE ID DECODER
TRANSFER CONTROL
BUFF
45 REQ
47 ACK
4 DACK
3 DREQ
SEL 40
BSY 38
BUFF
ARBITRATION AND SELECTION LOGIC
INTERNAL DATA BUS
SPC CONTROL
PSNS
PHASE CONTROL
BUFF
48 ATN
41 IO
42 CD
44 MSG
37 SRST
TRANSFER COUNTER
PCTL
A0–A3 9 – 12
CS 8
RD 1
WR 2
ADDRESS DECODE AND MPU INTERFACE
INTS
SERR
SSTS
INTERRUPT AND STATUS
36 INTR

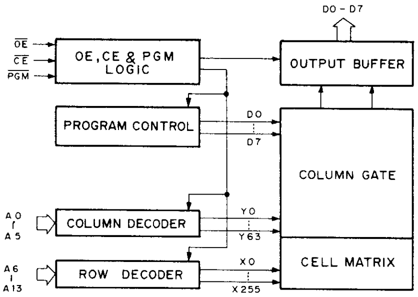
MBM27C128-20TV (FUJITSU) (ACCESS TIME = 200nS)

C-MOS 128K (16Kx8) BIT ERASABLE PROM WITH 3-STATE OUTPUTS
– TOP VIEW –


A7 IN
A12 IN
PGM IN
A13 IN
4
3
2
1
32
31
30
VPP
NC
VDD (+5V)
A6 IN 5
A5 IN 6
A4 IN 7
A3 IN 8
A2 IN 9
A1 IN 10
A0 IN 11
12 NC
D0 OUT 13
29 A8 IN
28 A9 IN
27 A11 IN
NC 26
25 OE IN
24 A10 IN
23 CE IN
22 D7 OUT
21 D6 OUT
GND
NC
14
15
16
17
18
19
20
D1 OUT
D2 OUT
D3 OUT
D4 OUT
D5 OUT


11 A0
10 A1
9 A2
8 A3
7 A4
6 A5
5 A6
4 A7
29 A8
28 A9
26 A10
27 A11
3 A12
30 A13
D0 13
D1 14
D2 15
D3 18
D4 19
D5 20
D6 21
D7 22
OE 25
CE 23
PGM

A0-A13 ; ADDRESS INPUT
$\overline{CE}$; CHIP ENABLE
D0-D7 ; DATA OUTPUT
$\overline{OE}$; OUTPUT ENABLE
$\overline{PGM}$; PROGRAM ENABLE
VPP ; PROGRAM POWER SUPPLY

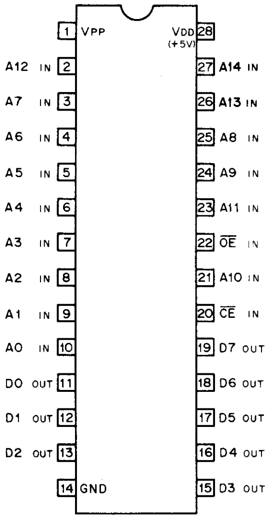

D0 - D7
OE
CE
PGM
OE, CE & PGM LOGIC
OUTPUT BUFFER
PROGRAM CONTROL
D0
D7
COLUMN GATE
A0
A5
COLUMN DECODER
Y0
Y63
A6
A13
ROW DECODER
X0
X255
CELL MATRIX

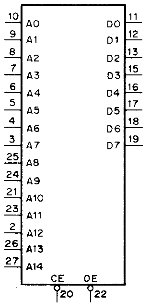
MODE \ TERMINAL	DATA OUTPUT	$\overline{CE}$	$\overline{OE}$	$\overline{PGM}$	VPP
READ	DATA OUT	0	0	1	+5V
OUTPUT DISABLE	HIGH IMPEDANCE	0	1	1	+5V
OUTPUT DISABLE	HIGH IMPEDANCE	0	0	0	+5V
STANDBY	HIGH IMPEDANCE	1	X	X	+5V
PROGRAM	DATA IN	0	1	0	+21V
PROGRAM VERIFY	DATA OUT	0	0	1	+21V
PROGRAM INHIBIT	HIGH IMPEDANCE	1	X	X	+21V

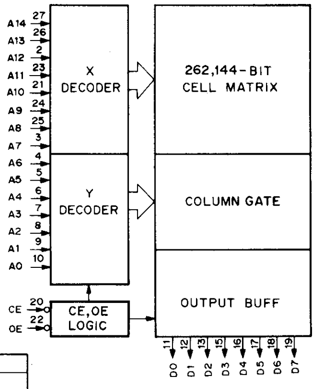
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

MBM27C256-25CZ (FUJITSU) (ACCESS TIME = 250nS)

C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS
– TOP VIEW –


1 VPP
A12 IN 2
A7 IN 3
A6 IN 4
A5 IN 5
A4 IN 6
A3 IN 7
A2 IN 8
A1 IN 9
A0 IN 10
D0 OUT 11
D1 OUT 12
D2 OUT 13
14 GND
VDD (+5V) 28
27 A14 IN
26 A13 IN
25 A8 IN
24 A9 IN
23 A11 IN
22 OE IN
21 A10 IN
20 CE IN
19 D7 OUT
18 D6 OUT
17 D5 OUT
16 D4 OUT
15 D3 OUT


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
26 A13
27 A14
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
CE 20
OE 22


A14 27
A13 26
A12 2
A11 23
A10 21
A9 24
A8 25
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
X DECODER
262,144-BIT CELL MATRIX
Y DECODER
COLUMN GATE
CE 20
OE 22
CE, OE LOGIC
OUTPUT BUFF
11 D0
12 D1
13 D2
15 D3
16 D4
17 D5
18 D6
19 D7

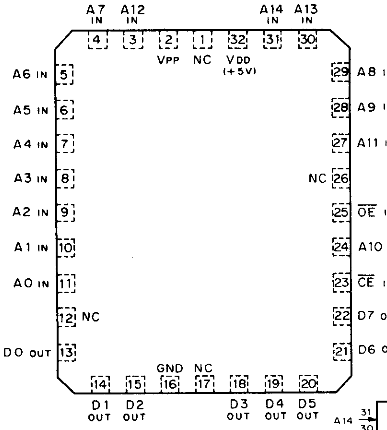
A0-A12 ; ADDRESS
CE ; CHIP ENABLE
D0-D7 ; DATA OUTPUT
OE ; OUTPUT ENABLE
VPP ; PROGRAM POWER SUPPLY

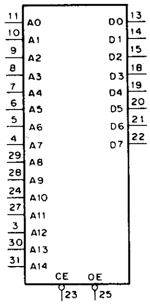
An	CE	OE	Vpp	Dn	FUNCTION
An	0	0	+5V	D OUT	READ
An	0	1	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	HI-Z	STANDBY
An	0	1	+21V	DIN	PGM
An	0	0	+21V	D OUT	PGM VERIFY
X	1	X	+21V	HI-Z	PGM INH

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

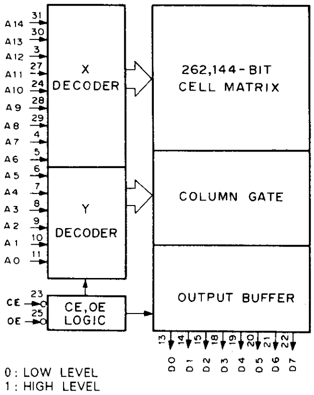
MBM27C256A-20TV (FUJITSU) (ACCESS TIME = 200nS)

C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS
– TOP VIEW –


A7 IN
A12 IN
A14 IN
A13 IN
4
3
2
1
32
31
30
VPP
NC
VDD (+5V)
A6 IN 5
A5 IN 6
A4 IN 7
A3 IN 8
A2 IN 9
A1 IN 10
A0 IN 11
12 NC
D0 OUT 13
29 A8 IN
28 A9 IN
27 A11 IN
NC 26
25 OE IN
24 A10 IN
23 CE IN
22 D7 OUT
21 D6 OUT
GND
NC
14
15
16
17
18
19
20
D1 OUT
D2 OUT
D3 OUT
D4 OUT
D5 OUT


11 A0
10 A1
9 A2
8 A3
7 A4
6 A5
5 A6
4 A7
29 A8
28 A9
24 A10
27 A11
3 A12
30 A13
31 A14
D0 13
D1 14
D2 15
D3 18
D4 19
D5 20
D6 21
D7 22
CE 23
OE 25

A0 – A14 : ADDRESS INPUT
$\overline{CE}$: CHIP ENABLE INPUT
D0 – D7 : DATA OUTPUT
$\overline{OE}$: OUTPUT ENABLE INPUT
VPP : PROGRAM POWER SUPPLY


A14 31
A13 30
A12 3
A11 27
A10 24
A9 28
A8 29
A7 4
A6 5
A5 6
A4 7
A3 8
A2 9
A1 10
A0 11
X DECODER
262,144-BIT CELL MATRIX
Y DECODER
COLUMN GATE
CE 23
OE 25
CE, OE LOGIC
OUTPUT BUFFER
13 D0
14 D1
15 D2
18 D3
19 D4
20 D5
21 D6
22 D7

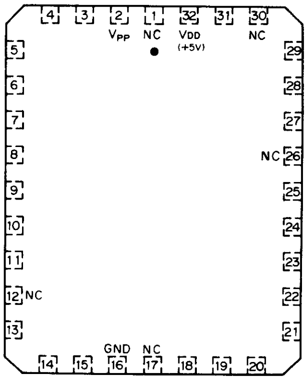
An	$\overline{CE}$	$\overline{OE}$	V_{PP}	Dn	FUNCTION
An	0	0	+ 5V	DOUT	READ
An	0	1	+ 5V	HI-Z	OUTPUT DISABLE
X	1	X	+ 5V	HI-Z	STANDBY
An	0	1	+ 12.5V	DIN	PGM
An	0	0	+ 12.5V	DOUT	PGM VERIFY
X	1	1	+ 12.5V	HI-Z	PGM INH

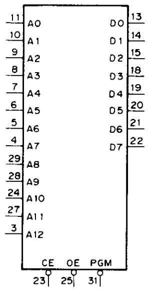
0 : LOW LEVEL
1 : HIGH LEVEL
X: DON'T CARE
HI-Z : HIGH IMPEDANCE

MBM27C64-20CV (FUJITSU) (ACCESS TIME = 200nS)

C-MOS 64K (8K-8) ERASABLE PROM

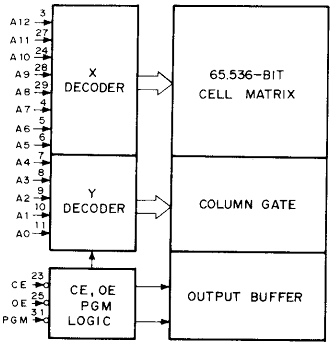
– TOP VIEW –


4
3
2
1
32
31
30
VPP
NC
VDD (+5V)
NC
5
6
7
8
9
10
11
12 NC
13
29
28
27
NC 26
25
24
23
22
21
GND
NC
14
15
16
17
18
19
20


11 A0
10 A1
9 A2
8 A3
7 A4
6 A5
5 A6
4 A7
29 A8
28 A9
24 A10
27 A11
3 A12
D0 13
D1 14
D2 15
D3 18
D4 19
D5 20
D6 21
D7 22
CE 23
OE 25
PGM 31

A0-A12 ; ADDRESS INPUTS
CE ; CHIP ENABLE
D0-D7 ; DATA OUTPUTS
OE ; OUTPUT ENABLE
PGM ; PROGRAM ENABLE
VPP ; PROGRAM VOLTAGE

PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1			NC	9	○		A2	17			NC	25	○		$\overline{OE}$
2			V_{PP}	10	○		A1	18		○	D3	26			NC
3	○		A12	11	○		A0	19		○	D4	27	○		A11
4	○		A7	12			NC	20		○	D5	28	○		A9
5	○		A6	13		○	D0	21		○	D6	29	○		A8
6	○		A5	14		○	D1	22		○	D7	30			NC
7	○		A4	15		○	D2	23	○		$\overline{CE}$	31	○		$\overline{PGM}$
8	○		A3	16			GND	24	○		A10	32			VDD


A12 3
A11 27
A10 24
A9 28
A8 29
A7 4
A6 5
A5 6
A4 7
A3 8
A2 9
A1 10
A0 11
X DECODER
Y DECODER
65.536-BIT CELL MATRIX
COLUMN GATE
OUTPUT BUFFER
CE 23
OE 25
PGM 31
CE, OE PGM LOGIC

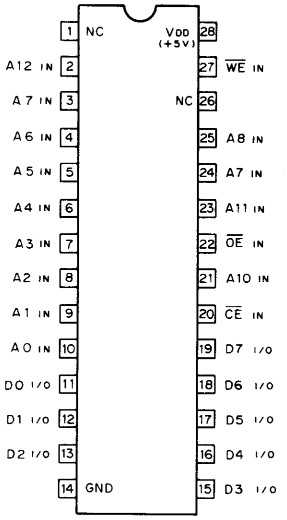
An	CE	OE	PGM	Vpp	Dn	FUNCTION
An	0	0	1	+5V	D OUT	READ
An	0	1	1	+5V	HI-Z	OUTPUT DISABLE
An	0	0	0	+5V	HI-Z	OUTPUT DISABLE
X	1	X	X	+5V	HI-Z	STANDBY
An	0	1	0	+21V	D IN	PGM
An	0	0	1	+21V	D OUT	PGM VERIFY
X	1	X	X	+21V	HI-Z	PGM INHIBIT

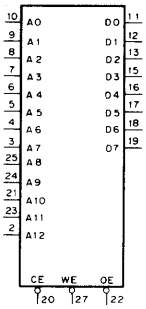
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

MBM28C64-25 (FUJITSU) (ACCESS TIME = 250nS)

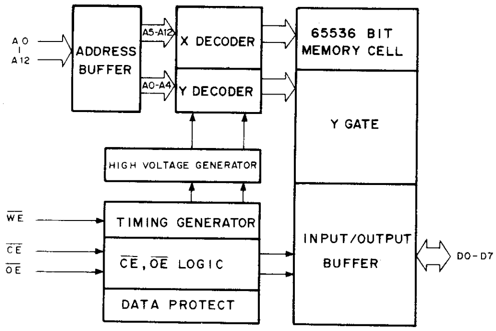
C-MOS 64K (8Kx8) BIT EEPROM WITH 3-STATE OUTPUTS

– TOP VIEW –


1 NC
A12 IN 2
A7 IN 3
A6 IN 4
A5 IN 5
A4 IN 6
A3 IN 7
A2 IN 8
A1 IN 9
A0 IN 10
D0 I/O 11
D1 I/O 12
D2 I/O 13
14 GND
VDD (+5V) 28
27 $\overline{WE}$ IN
NC 26
25 A8 IN
24 A7 IN
23 A11 IN
22 $\overline{OE}$ IN
21 A10 IN
20 $\overline{CE}$ IN
19 D7 I/O
18 D6 I/O
17 D5 I/O
16 D4 I/O
15 D3 I/O


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
CE 20
WE 27
OE 22

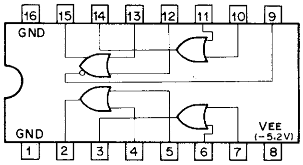
A0-A12 ; ADDRESS INPUTS
D0-D7 ; DATA INPUTS/OUTPUTS
$\overline{CE}$; CHIP ENABLE INPUT
$\overline{WE}$; WRITE ENABLE INPUT
$\overline{OE}$; OUTPUT ENABLE INPUT

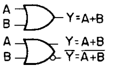

A0
A12
ADDRESS BUFFER
A5-A12
A0-A4
X DECODER
Y DECODER
65536 BIT MEMORY CELL
Y GATE
HIGH VOLTAGE GENERATOR
$\overline{WE}$
$\overline{CE}$
$\overline{OE}$
TIMING GENERATOR
$\overline{CE}$, $\overline{OE}$ LOGIC
DATA PROTECT
INPUT/OUTPUT BUFFER
D0-D7

MC10103L (MOTOROLA)
MC10H103L (MOTOROLA)

ECL 2-INPUT OR GATE

– TOP VIEW –


16
15
14
13
12
11
10
9
GND
GND
VEE (–5.2V)
1
2
3
4
5
6
7
8

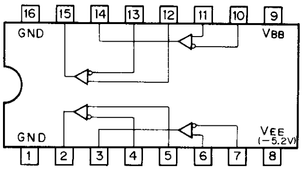

A
B
Y=A+B
A
B
Y=A+B
$\overline{Y}=\overline{A+B}$

A	B	Y	$\overline{Y}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

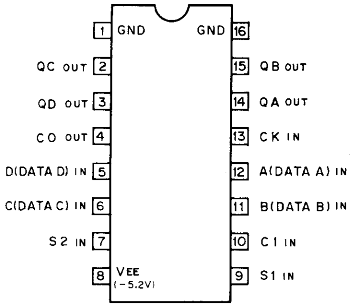
MC10115L (MOTOROLA)
MC10H115L (MOTOROLA)

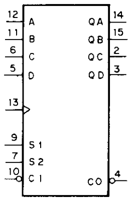
ECL LINE RECEIVER
- TOP VIEW -


16
15
14
13
12
11
10
9
GND
VBB
GND
VEE
(-5.2V)
1
2
3
4
5
6
7
8

MC10136L (MOTOROLA)

ECL PROGRAMMABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER
- TOP VIEW -


1 GND
2 QC OUT
3 QD OUT
4 CO OUT
5 D(DATA D) IN
6 C(DATA C) IN
7 S2 IN
8 VEE (-5.2V)
16 GND
15 QB OUT
14 QA OUT
13 CK IN
12 A(DATA A) IN
11 B(DATA B) IN
10 CI IN
9 S1 IN


12 A
11 B
6 C
5 D
13
9 S1
7 S2
10 CI
QA 14
QB 15
QC 2
QD 3
CO 4

MODE SELECTION

INPUTS			MODE
S1	S2	CI	
0	0	X	PRESET (LOAD)
0	1	0	COUNT UP
1	0	0	COUNT DOWN
1	1	X	COUNT HOLD
X	X	1	COUNT DISABLE

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

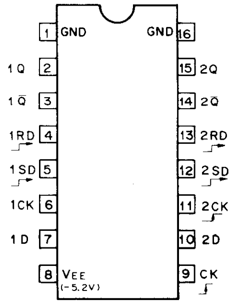
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

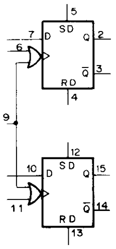
CO GOES LOW WHEN COUNT GOES "15" AT UP-COUNT OR WHEN COUNT GOES "0" AT DOWN COUNT OR WHEN THE COUNTER IS BEING PRESET.

CI INPUT ALLOWS SEVERAL DEVICES TO BE CASCADED IN A FULLY SYNCHRONOUS MULTISTAGE COUNTER.

MC10H131L (MOTOROLA)

ECL D-TYPE FLIP FLOP
- TOP VIEW -


1 GND
2 1Q
3 1Q̄
4 1RD
5 1SD
6 1CK
7 1D
8 VEE (-5.2V)
16 GND
15 2Q
14 2Q̄
13 2RD
12 2SD
11 2CK
10 2D
9 CK

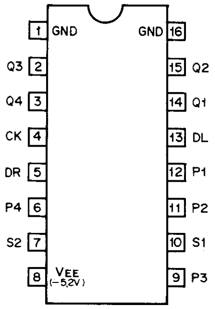

5
7 D
SD
Q 2
6
Q̄ 3
RD
4
9
12
10 D
SD
Q 15
11
Q̄ 14
RD
13

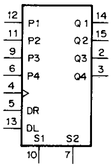
INPUTS				OUTPUTS	
SD	RD	CK	D	Qn+1	$\overline{Qn+1}$
1	0	X	X	1	0
0	1	X	X	0	1
1	1	X	X	ND	ND
0	0	↑	1	1	0
0	0	↑	0	0	1
0	0	0	X	Qn	$\overline{Qn}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

MC10H141L (MOTOROLA)

ECL 4-BIT SHIFT REGISTER
- TOP VIEW -


1 GND
2 Q3
3 Q4
4 CK
5 DR
6 P4
7 S2
8 VEE (-5.2V)
16 GND
15 Q2
14 Q1
13 DL
12 P1
11 P2
10 S1
9 P3


12 P1
11 P2
9 P3
6 P4
4
5 DR
13 DL
S1 10
S2 7
Q1 14
Q2 15
Q3 2
Q4 3

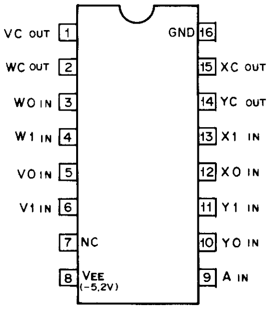
P1 to P4 ; PARALLEL DATA IN
CK ; CLOCK (↑) IN
DR ; DIRECTION RIGHT IN
DL ; DIRECTION LEFT IN
S1 , S2 ; MODE SELECT IN

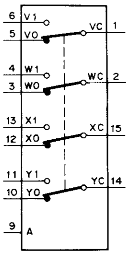
SELECT		MODE	OUTPUT			
S1	S2		Q1n+1	Q2n+1	Q3n+1	Q4n+1
0	0	PARALLEL ENTRY	P1	P2	P3	P4
0	1	SHIFT RIGHT	Q2n	Q3n	Q4n	DR
1	0	SHIFT LEFT	DL	Q1n	Q2n	Q3n
1	1	STOP SHIFT	Q1n	Q2n	Q3n	Q4n

0 ; LOW LEVEL
1 ; HIGH LEVEL

MC10H158L (MOTOROLA)

ECL 2-INPUT MULTIPLEXER
- TOP VIEW -


1 VC OUT
2 WC OUT
3 W0 IN
4 W1 IN
5 V0 IN
6 V1 IN
7 NC
8 VEE (-5.2V)
16 GND
15 XC OUT
14 YC OUT
13 X1 IN
12 X0 IN
11 Y1 IN
10 Y0 IN
9 A IN

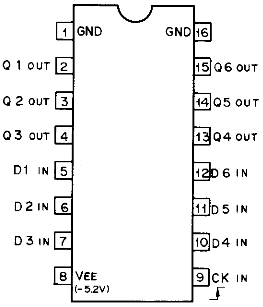

6 V1
5 V0
VC 1
4 W1
3 W0
WC 2
13 X1
12 X0
XC 15
11 Y1
10 Y0
YC 14
9 A

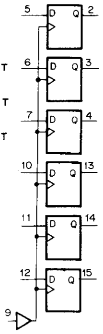
A(CONT)	ON CHANNEL
0	V0,W0,X0,Y0
1	V1,W1,X1,Y1

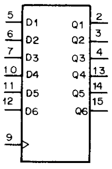
0 ; LOW LEVEL
1 ; HIGH LEVEL

MC10H176L (MOTOROLA)

ECL HEX D-TYPE FLIP-FLOP
- TOP VIEW -


1 GND
2 Q1 OUT
3 Q2 OUT
4 Q3 OUT
5 D1 IN
6 D2 IN
7 D3 IN
8 VEE (-5.2V)
16 GND
15 Q6 OUT
14 Q5 OUT
13 Q4 OUT
12 D6 IN
11 D5 IN
10 D4 IN
9 CK IN


5 D Q 2
6 D Q 3
7 D Q 4
10 D Q 13
11 D Q 14
12 D Q 15
9

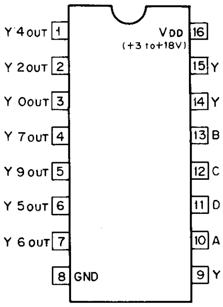

5 D1
6 D2
7 D3
10 D4
11 D5
12 D6
9
Q1 2
Q2 3
Q3 4
Q4 13
Q5 14
Q6 15

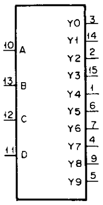
D	CK	Qn+1
0	↑	0
1	↑	1
X	0	Qn

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC14028BF (MOTOROLA) FLAT PACKAGE
TC4028BF (TOSHIBA) FLAT PACKAGE

C-MOS BCD TO DECIMAL DECODER
– TOP VIEW –


Y 4OUT 1
Y 2OUT 2
Y 0OUT 3
Y 7OUT 4
Y 9OUT 5
Y 5OUT 6
Y 6OUT 7
8 GND
VDD (+3 to+18V) 16
15 Y 3OUT
14 Y 1OUT
13 B IN
12 C IN
11 D IN
10 A IN
9 Y8OUT

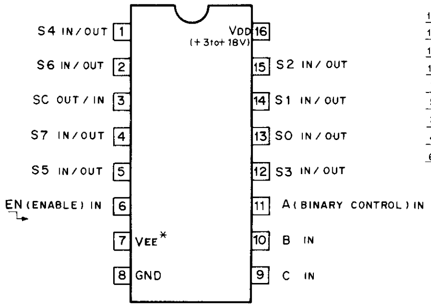

10 A
13 B
12 C
11 D
Y0 3
Y1 14
Y2 2
Y3 15
Y4 1
Y5 6
Y6 7
Y7 4
Y8 9
Y9 5

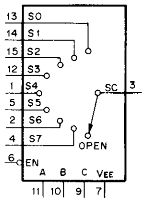
STATE	INPUTS				OUTPUTS									
	D	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
3	0	0	1	1	0	0	0	1	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	1	0	0	0	0	0
5	0	1	0	1	0	0	0	0	0	1	0	0	0	0
6	0	1	1	0	0	0	0	0	0	0	1	0	0	0
7	0	1	1	1	0	0	0	0	0	0	0	1	0	0
8	1	X	X	0	0	0	0	0	0	0	0	0	1	0
9	1	X	X	1	0	0	0	0	0	0	0	0	0	1

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

MC14051BF (MOTOROLA) FLAT PACKAGE
TC4051BF (TOSHIBA) FLAT PACKAGE

C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


S4 IN/OUT 1
S6 IN/OUT 2
SC OUT/IN 3
S7 IN/OUT 4
S5 IN/OUT 5
EN (ENABLE) IN 6
7 VEE*
8 GND
VDD (+3to+18V) 16
15 S2 IN/OUT
14 S1 IN/OUT
13 SO IN/OUT
12 S3 IN/OUT
11 A (BINARY CONTROL) IN
10 B IN
9 C IN


13 SO
14 S1
15 S2
12 S3
1 S4
5 S5
2 S6
4 S7
6 EN
SC 3
OPEN
A B C VEE
11 10 9 7

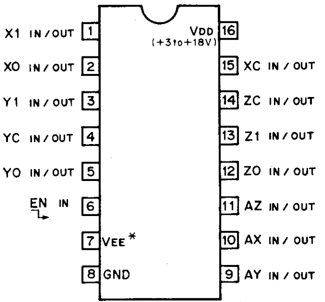
VEE*; VDD−VEE: +3to+18V

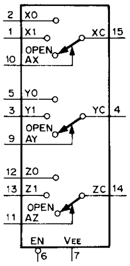
EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

MC14053BF (MOTOROLA) FLAT PACKAGE
TC4053BF (TOSHIBA) FLAT PACKAGE
TC4053BFHB (TOSHIBA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


X1 IN/OUT 1
XO IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
YO IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3to+18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 ZO IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT


2 XO
1 X1
XC 15
OPEN
10 AX
5 YO
3 Y1
YC 4
OPEN
9 AY
12 ZO
13 Z1
ZC 14
OPEN
11 AZ
EN VEE
6 7

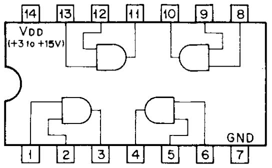
VEE*; VDD−VEE: +3to+18V

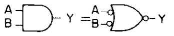
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

MC14081BF (MOTOROLA) FLAT PACKAGE
TC4081BF (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+3 to +15V)
GND
1 2 3 4 5 6 7



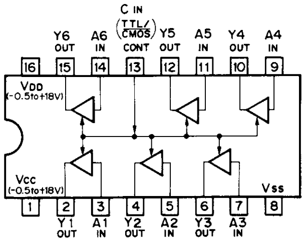
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0;LOW LEVEL
1;HIGH LEVEL

MC14504BCP (MOTOROLA)
MC14504BF (MOTOROLA) FLAT PACKAGE

C-MOS HEX NON-INVERTING LEVEL SHIFTER
FOR TTL OR C-MOS TO C-MOS
– TOP VIEW –


C IN (TTL/CMOS) CONT
Y6 OUT
A6 IN
Y5 OUT
A5 IN
Y4 OUT
A4 IN
16 15 14 13 12 11 10 9
VDD (-0.5to+18V)
Vcc (-0.5to+18V)
Vss
1 2 3 4 5 6 7 8
Y1 OUT
A1 IN
Y2 OUT
A2 IN
Y3 OUT
A3 IN

MODE SELECTION

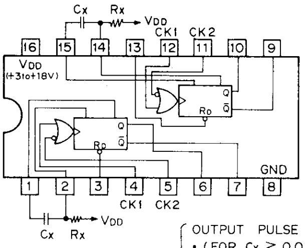
C	MODE
0	C-MOS
1	TTL

0 ; LOW LEVEL
1 ; HIGH LEVEL

Vss < A < Vcc
Vss < Y < VDD

MC14528BF (MOTOROLA) FLAT PACKAGE
TC4528BF (TOSHIBA) FLAT PACKAGE

C-MOS RETRIGGERABLE/RESETTABLE MMV
– TOP VIEW –


Cx Rx
VDD
CK1 CK2
16 15 14 13 12 11 10 9
VDD (+3to+18V)
Q
Q̄
RD
GND
1 2 3 4 5 6 7 8
CK1 CK2
VDD
Cx Rx

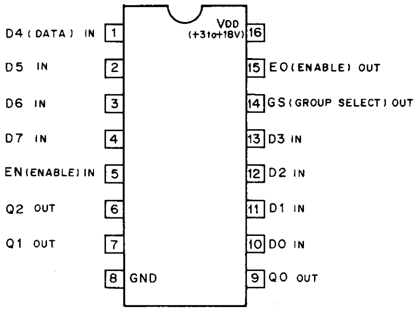
INPUTS			OUTPUTS	
CK1	CK2	RD	Q	$\overline{Q}$
↑	1	1	⊓	⊔
↑	0	1	Q	$\overline{Q}$
1	↓	1	Q	$\overline{Q}$
0	↓	1	⊓	⊔
X	X	0	0	1

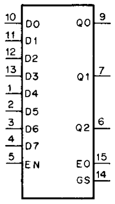
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH Q OR $\overline{Q}$
- (FOR Cx ≧ 0.01μF USE FORMULA)
  PW = 0.2 · Rx · Cx · ℓn (VDD − GND)
- (FOR Cx < 0.01μF USE DATA BOOK.)

MC14532BF (MOTOROLA) FLAT PACKAGE

C-MOS 8-BIT PRIORITY ENCODER
– TOP VIEW –

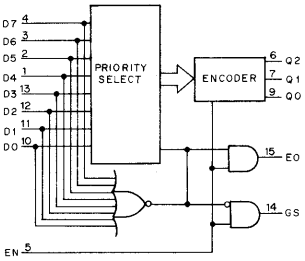

D4 (DATA) IN 1
D5 IN 2
D6 IN 3
D7 IN 4
EN (ENABLE) IN 5
Q2 OUT 6
Q1 OUT 7
8 GND
VDD (+3to+18V) 16
15 EO (ENABLE) OUT
14 GS (GROUP SELECT) OUT
13 D3 IN
12 D2 IN
11 D1 IN
10 D0 IN
9 Q0 OUT


10 D0
11 D1
12 D2
13 D3
1 D4
2 D5
3 D6
4 D7
5 EN
Q0 9
Q1 7
Q2 6
EO 15
GS 14

D7 IS THE HIGHEST PRIORITY

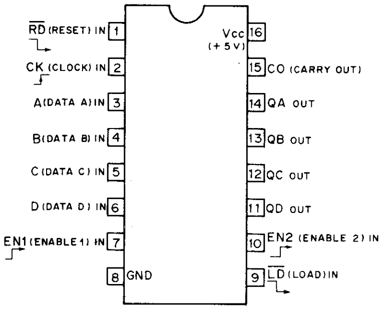
INPUTS									OUTPUTS				
EN	D7	D6	D5	D4	D3	D2	D1	D0	GS	Q2	Q1	Q0	EO
0	X	X	X	X	X	X	X	X	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	1
1	1	X	X	X	X	X	X	X	1	1	1	1	0
1	0	1	X	X	X	X	X	X	1	1	1	0	0
1	0	0	1	X	X	X	X	X	1	1	0	1	0
1	0	0	0	1	X	X	X	X	1	1	0	0	0
1	0	0	0	0	1	X	X	X	1	0	1	1	0
1	0	0	0	0	0	1	X	X	1	0	1	0	0
1	0	0	0	0	0	0	1	X	1	0	0	1	0
1	0	0	0	0	0	0	0	1	1	0	0	0	0

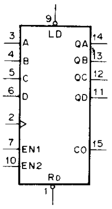
1 : HIGH LEVEL
0 : LOW LEVEL
X : DON'T CARE


D7 4
D6 3
D5 2
D4 1
D3 13
D2 12
D1 11
D0 10
EN 5
PRIORITY SELECT
ENCODER
6 Q2
7 Q1
9 Q0
15 EO
14 GS

MC74F163AM (MOTOROLA) FLAT PACKAGE

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
– TOP VIEW –


RD (RESET) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc (+5V) 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 LD (LOAD) IN


9
LD
3 A
4 B
5 C
6 D
2
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

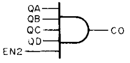
CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

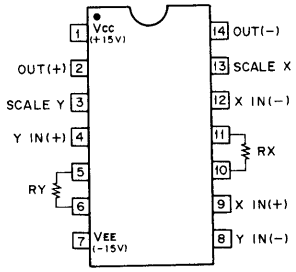
CARRY OUTPUT "CO"

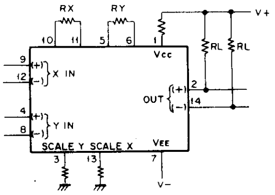

QA
QB
QC
QD
EN2
CO

CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

MC1495M (MOTOROLA) FLAT PACKAGE

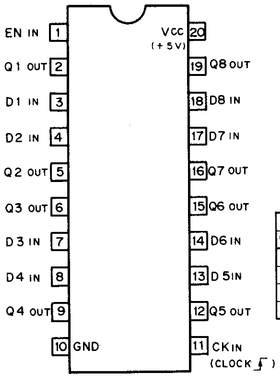
FOUR-QUADRANT MULTIPLIER
– TOP VIEW –

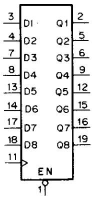

1 Vcc (+15V)
OUT(+) 2
SCALE Y 3
Y IN(+) 4
5
RY
6
7 VEE (-15V)
14 OUT(-)
13 SCALE X
12 X IN(-)
11
RX
10
9 X IN(+)
8 Y IN(-)


RX
RY
V+
10
11
5
6
1
Vcc
RL
RL
9 (+)
12 (-)
X IN
4 (+)
8 (-)
Y IN
OUT (+) 2
(-) 14
SCALE Y
SCALE X
VEE
3
13
7
V-

MC74F374M (MOTOROLA) FLAT PACKAGE

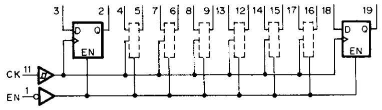
TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP
– TOP VIEW –


EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
Vcc (+5V) 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 CK IN (CLOCK)


3 D1
4 D2
7 D3
8 D4
13 D5
14 D6
17 D7
18 D8
11
EN
1
Q1 2
Q2 5
Q3 6
Q4 9
Q5 12
Q6 15
Q7 16
Q8 19

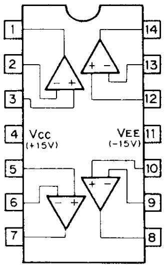
INPUTS			OUT
EN	D	CK	Q
0	1	↑	1
0	0	↑	0
0	X	0	Qo
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE


3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D Q
EN
CK 11
EN 1

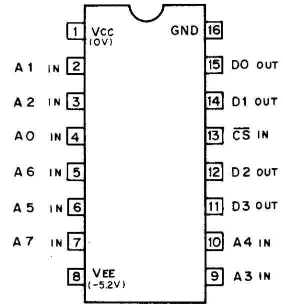
MC34184M (MOTOROLA) FLAT PACKAGE

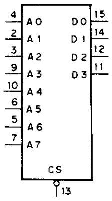
JFET INPUT OPERATIONAL AMPLIFIER
– TOP VIEW –


1
2
3
4 Vcc (+15V)
5
6
7
14
13
12
11 VEE (-15V)
10
9
8

MCM10149L10 (MOTOROLA) (ACCESS TIME = 10nS)

ECL 1024-BIT (256x4) PROM
- TOP VIEW -

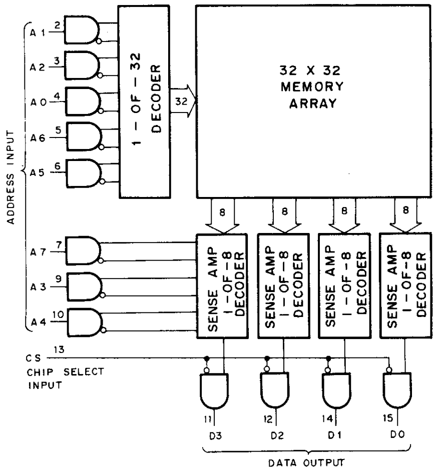

1 Vcc (0V)
2 A1 IN
3 A2 IN
4 A0 IN
5 A6 IN
6 A5 IN
7 A7 IN
8 VEE (-5.2V)
16 GND
15 D0 OUT
14 D1 OUT
13 $\overline{CS}$ IN
12 D2 OUT
11 D3 OUT
10 A4 IN
9 A3 IN


4 A0
2 A1
3 A2
9 A3
10 A4
6 A5
5 A6
7 A7
15 D0
14 D1
12 D2
11 D3
CS
13

OUTPUT MODE

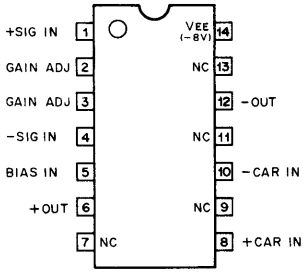
CS	OUTPUT
0	HI-IMPEDANCE
1	ENABLE

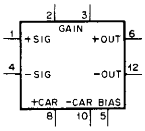
0 ; ECL LOW LEVEL
1 ; ECL HIGH LEVEL


A1 2
A2 3
A0 4
A6 5
A5 6
ADDRESS INPUT
1 - OF - 32 DECODER
32
32 X 32 MEMORY ARRAY
8
8
8
8
A7 7
A3 9
A4 10
SENSE AMP 1-OF-8 DECODER
SENSE AMP 1-OF-8 DECODER
SENSE AMP 1-OF-8 DECODER
SENSE AMP 1-OF-8 DECODER
13
CS
CHIP SELECT INPUT
11 D3
12 D2
14 D1
15 D0
DATA OUTPUT

NJM1496M (JRC) FLAT PACKAGE

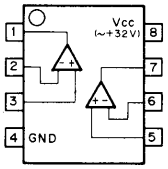
BALANCED MODULATOR/DEMODULATOR
- TOP VIEW -


+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
-SIG IN 4
BIAS IN 5
+OUT 6
7 NC
14 VEE (-8V)
13 NC
12 -OUT
11 NC
10 -CAR IN
9 NC
8 +CAR IN


2
3
GAIN
1 +SIG
4 -SIG
+OUT 6
-OUT 12
+CAR 8
-CAR 10
BIAS 5

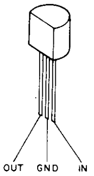
NJM4556M-A (JRC) FLAT PACKAGE

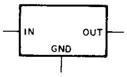
OPERATIONAL AMPLIFIER
- TOP VIEW -


1
2
3
4 GND
Vcc (~+32V) 8
7
6
5

NJM78L ? ?A (NEC)

POSITIVE VOLTAGE REGULATOR (100mA)

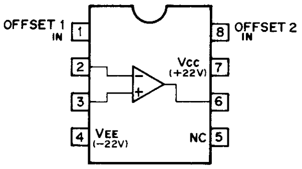




OUTPUT VOLTAGE	NJM78L??A	uA78L??ACL	uA78L??AWV	uPC78L??J	AN78L??
+2.6V	NJM78L02A	uA78L02ACL	uA78L26AWV	---------	-------
+4V	---------	----------	----------	---------	AN78L04
+5V	NJM78L05A	uA78L05ACL	uA78L05AWV	uPC78L05J	AN78L05
+6V	NJM78L06A	----------	----------	---------	AN78L06
+6.2V	---------	uA78L06ACL	uA78L62AWV	---------	-------
+7V	---------	----------	----------	---------	AN78L07
+8V	NJM78L08A	uA78L08ACL	----------	uPC78L08J	AN78L08
+8.2V	---------	----------	uA78L82AWV	---------	-------
+9V	NJM78L09A	uA78L09ACL	uA78L09AWV	---------	AN78L09
+10V	---------	uA78L10ACL	----------	uPC78L10J	AN78L10
+12V	NJM78L12A	uA78L12ACL	uA78L12AWV	uPC78L12J	AN78L12
+15V	NJM78L15A	uA78L15ACL	uA78L15AWV	uPC78L15J	AN78L15
+18V	NJM78L18A	----------	uA78L18AWV	---------	AN78L18
+20V	NJM78L20A	----------	----------	---------	AN78L20
+24V	NJM78L24A	----------	uA78L24AWV	---------	AN78L24

OP-07CPS (TI) FLAT PACKAGE
OP-07DPS (TI) FLAT PACKAGE

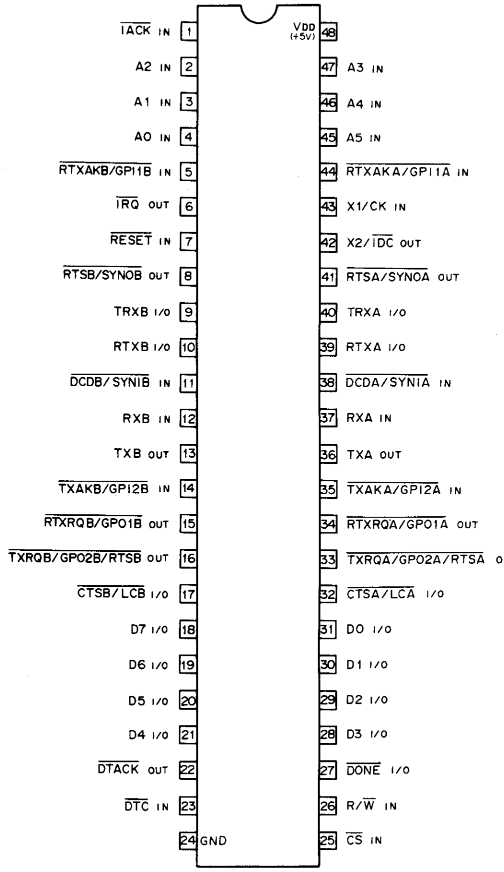
OPERATIONAL AMPLIFIER
- TOP VIEW -

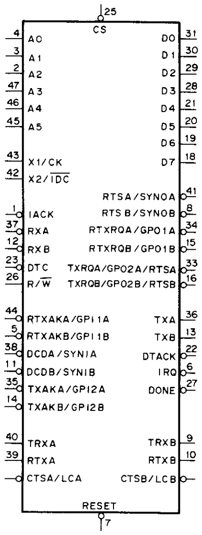

OFFSET 1 IN 1
2
3
4 VEE (-22V)
8 OFFSET 2 IN
Vcc (+22V) 7
6
NC 5

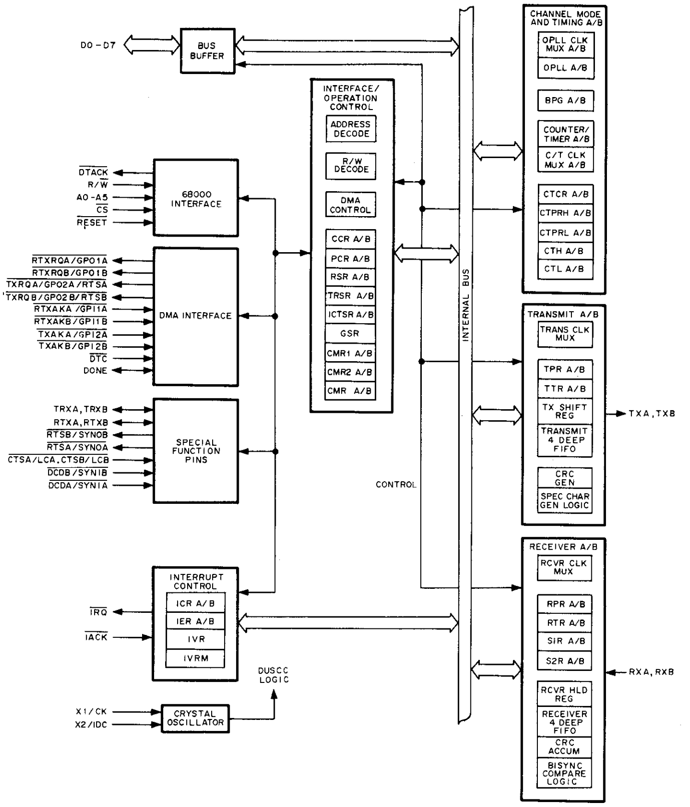
SCN68562C4N48 (SIGNETICS)

C-MOS DUAL UNIVERSAL SERIAL COMMUNICATIONS CONTROLLER

– TOP VIEW –


IACK IN 1
A2 IN 2
A1 IN 3
A0 IN 4
RTXAKB/GPI1B IN 5
IRQ OUT 6
RESET IN 7
RTSB/SYNOB OUT 8
TRXB I/O 9
RTXB I/O 10
DCDB/SYNIB IN 11
RXB IN 12
TXB OUT 13
TXAKB/GPI2B IN 14
RTXRQB/GPO1B OUT 15
TXRQB/GPO2B/RTSB OUT 16
CTSB/LCB I/O 17
D7 I/O 18
D6 I/O 19
D5 I/O 20
D4 I/O 21
DTACK OUT 22
DTC IN 23
24 GND
VDD (+5V) 48
47 A3 IN
46 A4 IN
45 A5 IN
44 RTXAKA/GPI1A IN
43 X1/CK IN
42 X2/IDC OUT
41 RTSA/SYNOA OUT
40 TRXA I/O
39 RTXA I/O
38 DCDA/SYNIA IN
37 RXA IN
36 TXA OUT
35 TXAKA/GPI2A IN
34 RTXRQA/GPO1A OUT
33 TXRQA/GPO2A/RTSA OUT
32 CTSA/LCA I/O
31 D0 I/O
30 D1 I/O
29 D2 I/O
28 D3 I/O
27 DONE I/O
26 R/W IN
25 CS IN

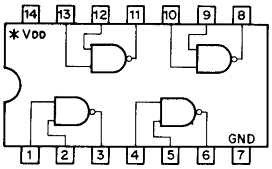

25
CS
4 A0
3 A1
2 A2
47 A3
46 A4
45 A5
43 X1/CK
42 X2/IDC
1 IACK
37 RXA
12 RXB
23 DTC
26 R/W
44 RTXAKA/GPI1A
5 RTXAKB/GPI1B
38 DCDA/SYNIA
11 DCDB/SYNIB
35 TXAKA/GPI2A
14 TXAKB/GPI2B
40 TRXA
39 RTXA
CTSA/LCA
D0 31
D1 30
D2 29
D3 28
D4 21
D5 20
D6 19
D7 18
RTSA/SYNOA 41
RTS B/SYNOB 8
RTXRQA/GPO1A 34
RTXRQB/GPO1B 15
TXRQA/GPO2A/RTSA 33
TXRQB/GPO2B/RTSB 16
TXA 36
TXB 13
DTACK 22
IRQ 6
DONE 27
TRXB 9
RTXB 10
CTSB/LCB
RESET
7

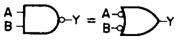

D0 – D7
BUS BUFFER
DTACK
R/W
A0 - A5
CS
RESET
68000 INTERFACE
RTXRQA/GPO1A
RTXRQB/GPO1B
TXRQA/GPO2A/RTSA
TXRQB/GPO2B/RTSB
RTXAKA/GPI1A
RTXAKB/GPI1B
TXAKA/GPI2A
TXAKB/GPI2B
DTC
DONE
DMA INTERFACE
TRXA,TRXB
RTXA,RTXB
RTSB/SYNOB
RTSA/SYNOA
CTSA/LCA,CTSB/LCB
DCDB/SYNIB
DCDA/SYNIA
SPECIAL FUNCTION PINS
INTERFACE/ OPERATION CONTROL
ADDRESS DECODE
R/W DECODE
DMA CONTROL
CCR A/B
PCR A/B
RSR A/B
TRSR A/B
ICTSR A/B
GSR
CMR1 A/B
CMR2 A/B
CMR A/B
CONTROL
INTERNAL BUS
IRQ
IACK
INTERRUPT CONTROL
ICR A/B
IER A/B
IVR
IVRM
DUSCC LOGIC
X1/CK
X2/IDC
CRYSTAL OSCILLATOR
CHANNEL MODE AND TIMING A/B
OPLL CLK MUX A/B
OPLL A/B
BPG A/B
COUNTER/ TIMER A/B
C/T CLK MUX A/B
CTCR A/B
CTPRH A/B
CTPRL A/B
CTH A/B
CTL A/B
TRANSMIT A/B
TRANS CLK MUX
TPR A/B
TTR A/B
TX SHIFT REG
TRANSMIT 4 DEEP FIFO
CRC GEN
SPEC CHAR GEN LOGIC
TXA,TXB
RECEIVER A/B
RCVR CLK MUX
RPR A/B
RTR A/B
SIR A/B
S2R A/B
RCVR HLD REG
RECEIVER 4 DEEP FIFO
CRC ACCUM
BISYNC COMPARE LOGIC
RXA,RXB

A0-A5 ; ADDRESS INPUTS
R/W ; READ/WRITE INPUT
IDC ; INTERRUPT DAISY CHAIN
DTC ; DEVICE TRANSFER COMPLETE INPUT
TXRQA(B)/GPO2A(B)/RTSA(B)
; CHANNEL A(B) TRANSMITTER DMA SERVICE REQUEST, GENERAL PURPOSE OUTPUT, OR REQUEST-TO-SEND OUTPUT
RTXRQA(B)/GPO1A(B)
; CHANNEL A(B) RECEIVER/TRANSMITTER DMA SERVICE REQUEST OR GENERAL PURPOSE OUTPUT
RTXAKA(B)/GPI1A(B)
; CHANNEL A(B) RECEIVER/TRANSMITTER DMA ACKNOWLEDGE OR GENERAL PURPOSE INPUT
TXAKA(B)/GPI2A(B)
; CHANNEL A(B) TRANSMITTER DMA ACKNOWLEDGE OR GENERAL PURPOSE INPUT
RTSA(B)/SYNOA(B)
; CHANNEL A(B) SYNC DETECT OR REQUEST-TO-SEND OUTPUT
DCDA(B)/SYNIA(B)
; CHANNEL A(B) DATA CARRIER DETECTED OR EXTERNAL SYNC INPUT
TXA(B) ; CHANNEL A(B) TRANSMITTER SERIAL DATA OUTPUT
RXA(B) ; CHANNEL A(B) RECEIVER SERIAL DATA INPUT
TRXA(B) ; CHANNEL A(B) TRANSMITTER/RECEIVER CLOCK INPUT/OUTPUT
RTXA(B) ; CHANNEL A(B) RECEIVER/TRANSMITTER CLOCK INPUT/OUTPUT
CTSA(B)/LCA(B)
; CHANNEL A(B) CLEAR-TO-SEND INPUT OR LOOP CONTROL OUTPUT
D0-D7 ; DATA INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
IACK ; INTERRUPT ACKNOWLEDGE
DTACK ; DATA TRANSFER ACKNOWLEDGE
IRQ ; INTERRUPT REQUEST

SN74HC00NS (TI) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE
TC74HC00F (TOSHIBA) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATE
– TOP VIEW –


14
13
12
11
10
9
8
*VDD
GND
1
2
3
4
5
6
7



$Y=\overline{A\cdot B}=\overline{A}+\overline{B}$

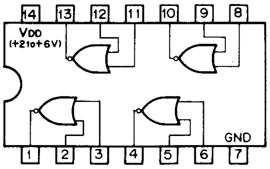
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

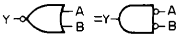
0; LOW LEVEL
1; HIGH LEVEL

*VDD HC; +2to+6V
HCT; +5V

SN74HC02NS (TI) FLAT PACKAGE
TC74HC02F (TOSHIBA) FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7



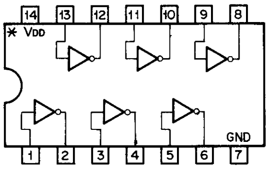
$Y=\overline{A+B}=\overline{A}\cdot\overline{B}$

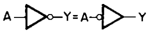
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0: LOW LEVEL
1: HIGH LEVEL

SN74HC04NS (TI) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE
TC74HC04F (TOSHIBA) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE

C-MOS HEX INVERTER
– TOP VIEW –


14
13
12
11
10
9
8
* VDD
GND
1
2
3
4
5
6
7



$Y=\overline{A}$

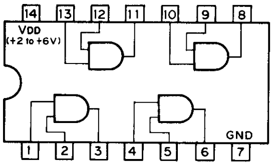
A	Y
0	1
1	0

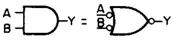
0: LOW LEVEL
1: HIGH LEVEL

* VDD HC, HCU; +2to+6V
HCT; +5V

SN74HC08NS (TI) FLAT PACKAGE
TC74HC08F (TOSHIBA) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



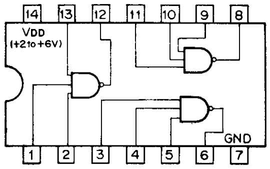
$Y=A\cdot B=\overline{\overline{A}+\overline{B}}$

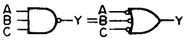
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

SN74HC10NS (TI) FLAT PACKAGE
TC74HC10F (TOSHIBA) FLAT PACKAGE

C-MOS 3-INPUT NAND GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7



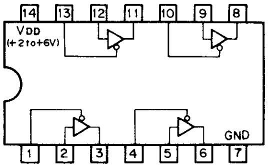
$Y=\overline{ABC}=\overline{A}+\overline{B}+\overline{C}$

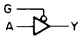
A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

SN74HC125NS (TI) FLAT PACKAGE
TC74HC125F (TOSHIBA) FLAT PACKAGE

C-MOS BUS BUFFER GATES WITH 3-STATE OUTPUT
– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7

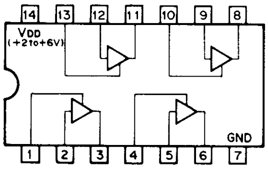


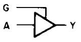
G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL HI-Z; HIGH IMPEDANCE

SN74HC126NS (TI) FLAT PACKAGE
TC74HC126F (TOSHIBA) FLAT PACKAGE

C-MOS BUS BUFFER GATE WITH 3-STATE OUTPUT
– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7

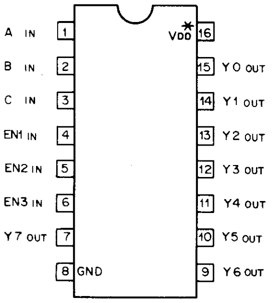


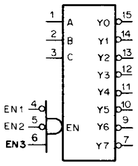
G	A	Y
1	1	1
1	0	0
0	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

SN74HC138NS (TI) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE
TC74HC138F (TOSHIBA) ($V_{DD}=+2$ to $+6V$) FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
– TOP VIEW –


A IN 1
B IN 2
C IN 3
EN1 IN 4
EN2 IN 5
EN3 IN 6
Y7 OUT 7
8 GND
*VDD 16
15 Y0 OUT
14 Y1 OUT
13 Y2 OUT
12 Y3 OUT
11 Y4 OUT
10 Y5 OUT
9 Y6 OUT


1 A
2 B
3 C
EN1 4
EN2 5
EN3 6
EN
Y0 15
Y1 14
Y2 13
Y3 12
Y4 11
Y5 10
Y6 9
Y7 7

INPUT				OUTPUT							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

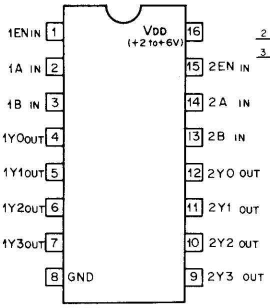
$EN=\overline{EN1}\cdot\overline{EN2}\cdot EN3$

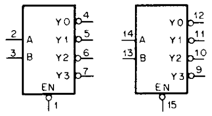
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

* VDD HC; +2 to +6V
HCT; +5V

SN74HC139NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC139F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS 1-OF-4 DECODER/DEMULTIPLEXER
– TOP VIEW –


1EN IN 1
1A IN 2
1B IN 3
1Y0 OUT 4
1Y1 OUT 5
1Y2 OUT 6
1Y3 OUT 7
8 GND
VDD (+2 to+6V) 16
15 2EN IN
14 2A IN
13 2B IN
12 2Y0 OUT
11 2Y1 OUT
10 2Y2 OUT
9 2Y3 OUT

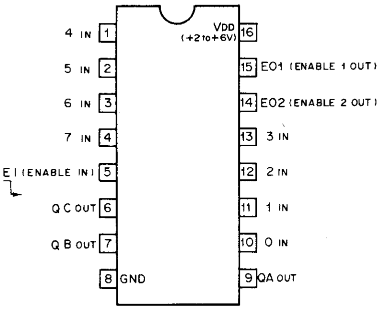

2 A
3 B
EN 1
Y0 4
Y1 5
Y2 6
Y3 7
14 A
13 B
EN 15
Y0 12
Y1 11
Y2 10
Y3 9

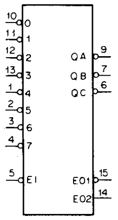
INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC148NS (TI) FLAT PACKAGE
TC74HC148F (TOSHIBA) FLAT PACKAGE

C-MOS 8-TO-3-LINE PRIORITY ENCODER
– TOP VIEW –


4 IN 1
5 IN 2
6 IN 3
7 IN 4
EI (ENABLE IN) 5
QC OUT 6
QB OUT 7
8 GND
VDD (+2 to+6V) 16
15 EO1 (ENABLE 1 OUT)
14 EO2 (ENABLE 2 OUT)
13 3 IN
12 2 IN
11 1 IN
10 0 IN
9 QA OUT

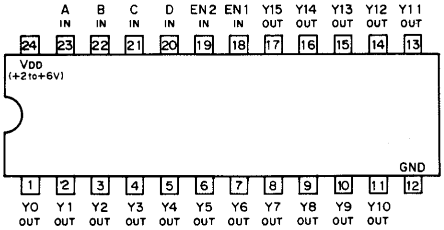

10 0
11 1
12 2
13 3
1 4
2 5
3 6
4 7
5 EI
QA 9
QB 7
QC 6
EO1 15
EO2 14

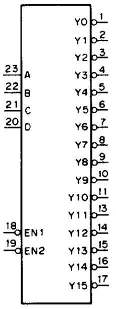
INPUTS									OUTPUTS				
EI	7	6	5	4	3	2	1	0	QC	QB	QA	EO1	EO2
1	X	X	X	X	X	X	X	X	1	1	1	1	1
0	1	1	1	1	1	1	1	1	1	1	1	0	1
0	1	1	1	1	1	1	1	0	1	1	1	1	0
0	1	1	1	1	1	1	0	X	1	1	0	1	0
0	1	1	1	1	1	0	X	X	1	0	1	1	0
0	1	1	1	1	0	X	X	X	1	0	0	1	0
0	1	1	1	0	X	X	X	X	0	1	1	1	0
0	1	1	0	X	X	X	X	X	0	1	0	1	0
0	1	0	X	X	X	X	X	X	0	0	1	1	0
0	0	X	X	X	X	X	X	X	0	0	0	1	0

0;LOW LEVEL 1;HIGH LEVEL X;DON'T CARE

SN74HC154NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC154P (TOSHIBA) (V_{DD} = +2 to +6V)

C-MOS 4-TO-16 LINE DECODER/DEMULTIPLEXER
– TOP VIEW –


A IN 24
B IN 23
C IN 22
D IN 21
EN2 IN 20
EN1 IN 19
Y15 OUT 18
Y14 OUT 17
Y13 OUT 16
Y12 OUT 15
Y11 OUT 14
13
VDD (+2to+6V)
GND 12
1 Y0 OUT
2 Y1 OUT
3 Y2 OUT
4 Y3 OUT
5 Y4 OUT
6 Y5 OUT
7 Y6 OUT
8 Y7 OUT
9 Y8 OUT
10 Y9 OUT
11 Y10 OUT

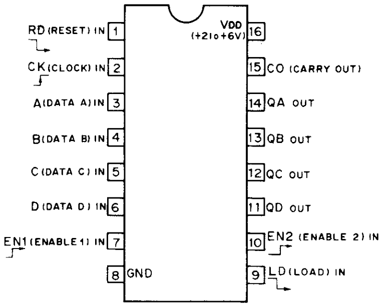

23 A
22 B
21 C
20 D
18 EN1
19 EN2
Y0 1
Y1 2
Y2 3
Y3 4
Y4 5
Y5 6
Y6 7
Y7 8
Y8 9
Y9 10
Y10 11
Y11 13
Y12 14
Y13 15
Y14 16
Y15 17

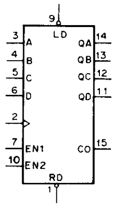
INPUTS						OUTPUTS															
EN1	EN2	D	C	B	A	Y15	Y14	Y13	Y12	Y11	Y10	Y9	Y8	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
0	0	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
0	0	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
0	0	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
0	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
0	0	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X	1	X	X	X	X	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	X	X	X	X	X	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74HC161NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC161F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS SYNCHRONOUS PRESETTABLE 4-BIT BINARY COUNTER
– TOP VIEW –


RD (RESET) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
VDD (+2to+6V) 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 LD (LOAD) IN

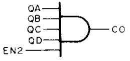

9
LD
3 A
4 B
5 C
6 D
2
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

CONTROL INPUT				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

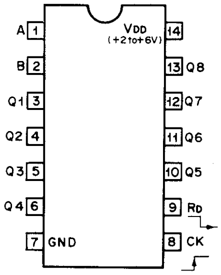
CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

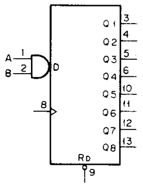
COUNT SEQUENCE

COUNT	OUTPUT			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

SN74HC164NS (TI) FLAT PACKAGE
TC74HC164F (TOSHIBA) FLAT PACKAGE

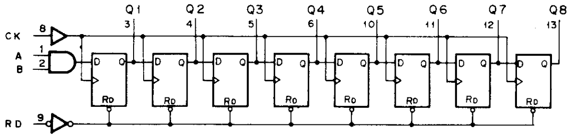
C-MOS 8-BIT SERIAL-IN/PARALLEL-OUT SHIFT REGISTER
– TOP VIEW –


A 1
B 2
Q1 3
Q2 4
Q3 5
Q4 6
7 GND
VDD (+2 to +6V) 14
13 Q8
12 Q7
11 Q6
10 Q5
9 RD
8 CK


A 1
B 2
D
8
RD 9
Q1 3
Q2 4
Q3 5
Q4 6
Q5 10
Q6 11
Q7 12
Q8 13

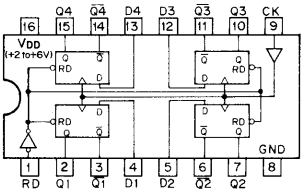
INPUTS				OUTPUTS			
RD	CK	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

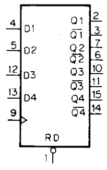
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE


Q1 3
Q2 4
Q3 5
Q4 6
Q5 10
Q6 11
Q7 12
Q8 13
CK 8
A 1
B 2
RD 9
D Q
RD

SN74HC175NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC175F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS D-TYPE FLIP-FLOP WITH RESET
– TOP VIEW –


Q4 Q̄4 D4 D3 Q̄3 Q3 CK
16 15 14 13 12 11 10 9
VDD (+2 to +6V)
GND
1 2 3 4 5 6 7 8
RD Q1 Q̄1 D1 D2 Q̄2 Q2

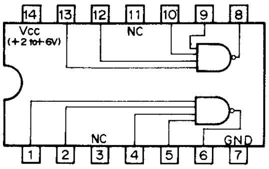

4 D1
5 D2
12 D3
13 D4
9
RD 1
Q1 2
Q̄1 3
Q2 7
Q̄2 6
Q3 10
Q̄3 11
Q4 15
Q̄4 14

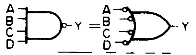
RD	CK	D	Q	Q̄
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Qo	Q̄o

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC20NS (TI) FLAT PACKAGE
TC74HC20F (TOSHIBA) FLAT PACKAGE

C-MOS 4-INPUT POSITIVE-NAND GATE
– TOP VIEW –


14 13 12 11 10 9 8
Vcc (+2 to +6V)
NC
NC
GND
1 2 3 4 5 6 7


A B C D
Y
=
A B C D
Y

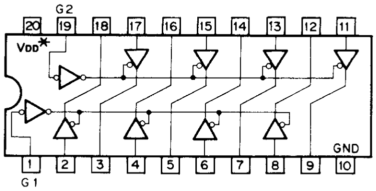
$Y = \overline{A \cdot B \cdot C \cdot D} = \overline{A} + \overline{B} + \overline{C} + \overline{D}$

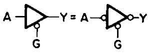
A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
⋮	⋮	⋮	⋮	⋮
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

0;LOW LEVEL
1;HIGH LEVEL

SN74HC244NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC244F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC244P (TOSHIBA) (V_{DD} = +2 to +6V)

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS
– TOP VIEW –

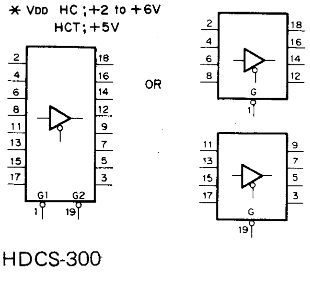

G2
20 19 18 17 16 15 14 13 12 11
VDD*
GND
1 2 3 4 5 6 7 8 9 10
G1



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

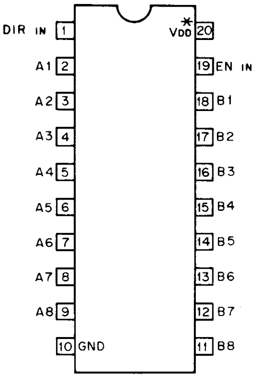
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

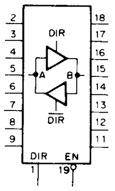
* VDD HC ;+2 to +6V
HCT; +5V


2 4 6 8 11 13 15 17
18 16 14 12 9 7 5 3
G1 G2
1 19
OR
2 4 6 8
18 16 14 12
G
1
11 13 15 17
9 7 5 3
G
19

SN74HC245NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC245F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –

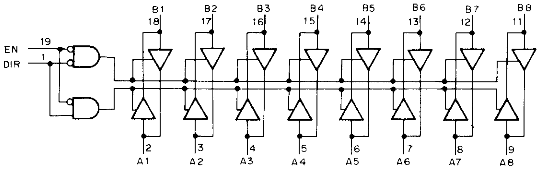

DIR IN 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
10 GND
* VDD 20
19 EN IN
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8


2 3 4 5 6 7 8 9
18 17 16 15 14 13 12 11
DIR
A B
DIR
DIR EN
1 19

EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI – Z

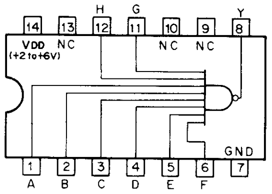
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

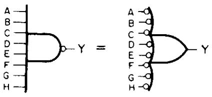
* VDD HC;+2 to +6V
HCT;+5V


B1 B2 B3 B4 B5 B6 B7 B8
18 17 16 15 14 13 12 11
EN 19
DIR 1
2 3 4 5 6 7 8 9
A1 A2 A3 A4 A5 A6 A7 A8

SN74HC30NS (TI) FLAT PACKAGE
TC74HC30F (TOSHIBA) FLAT PACKAGE

C-MOS 8-INPUT POSITIVE-NAND GATE
– TOP VIEW –

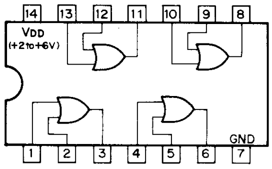

H G Y
14 13 12 11 10 9 8
VDD (+2 to +6V)
NC NC NC
GND
1 2 3 4 5 6 7
A B C D E F

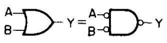

A B C D E F G H
Y
=
A B C D E F G H
Y

$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H}$
$= \overline{A} + \overline{B} + \overline{C} + \text{----} + \overline{H}$

SN74HC32NS (TI) FLAT PACKAGE
TC74HC32F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT OR GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2 to +6V)
GND
1 2 3 4 5 6 7



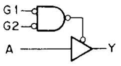
$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

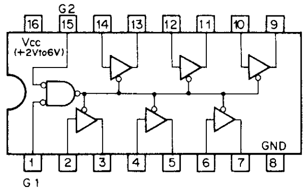
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0;LOW LEVEL
1;HIGH LEVEL

SN74HC365NS (TI) FLAT PACKAGE
TC74HC365F (TOSHIBA) FLAT PACKAGE

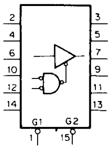
C-MOS 3-STATE BUS DRIVER
– TOP VIEW –




G2
16 15 14 13 12 11 10 9
Vcc (+2V to 6V)
GND
1 2 3 4 5 6 7 8
G1

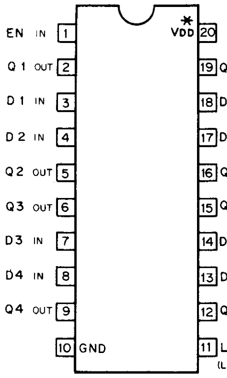
G1	G2	A	Y
0	0	0	0
0	0	1	1
0	1	X	HI - Z
1	0	X	HI - Z
1	1	X	HI - Z

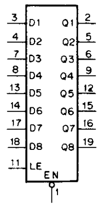
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


2 4 6 10 12 14
3 5 7 9 11 13
G1 G2
1 15

SN74HC373NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC373F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS 3-STATE OUTPUTS OCTAL LATCHES
- TOP VIEW -

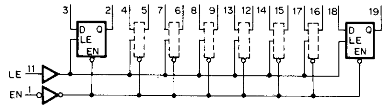

EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
* VDD 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 LE IN
(LATCH ENABLE)


D1 Q1
D2 Q2
D3 Q3
D4 Q4
D5 Q5
D6 Q6
D7 Q7
D8 Q8
LE
EN

INPUTS			OUT
EN	D	LE	Q
0	1	1	1
0	0	1	0
0	X	0	Qo
1	X	X	HI-Z

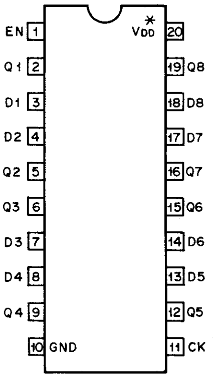
HI-Z;
HIGH IMPEDANCE
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

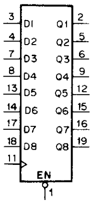
✱ VDD HC; +2 to +6V
HCT; +5V


D Q
LE
EN
LE 11
EN 1

SN74HC374NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC374F (TOSHIBA) (V_{DD} = +2 to +6V) FLAT PACKAGE
TC74HC374P (TOSHIBA) (V_{DD} = +2 to +6V)

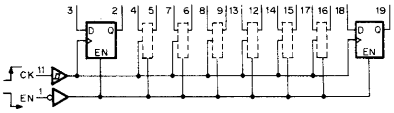
C-MOS 3-STATE OCTAL D-TYPE FLIP-FLOP
- TOP VIEW -


EN 1
Q1 2
D1 3
D2 4
Q2 5
Q3 6
D3 7
D4 8
Q4 9
10 GND
* VDD 20
19 Q8
18 D8
17 D7
16 Q7
15 Q6
14 D6
13 D5
12 Q5
11 CK


D1 Q1
D2 Q2
D3 Q3
D4 Q4
D5 Q5
D6 Q6
D7 Q7
D8 Q8
EN

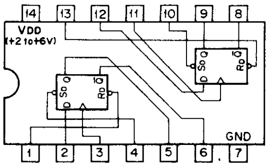
INPUTS			OUT
EN	D	CK	Q
0	1	↑	1
0	0	↑	0
0	X	0	Qo
1	X	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


D Q
EN
CK 11
EN 1

SN74HC74NS (TI) FLAT PACKAGE
TC74HC74F (TOSHIBA) FLAT PACKAGE

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET
- TOP VIEW -

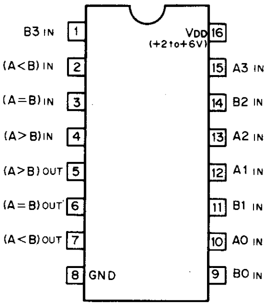

14 13 12 11 10 9 8
VDD
(+2 to +6V)
SD
RD
GND
1 2 3 4 5 6 7

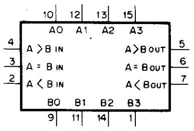
INPUTS				OUTPUTS	
SD	RD	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
1*; NONSTABLE

SN74HC85NS (TI) FLAT PACKAGE
TC74HC85F (TOSHIBA) FLAT PACKAGE

C-MOS 4-BIT MAGNITUDE COMPARATOR
- TOP VIEW -


B3 IN 1
(A<B) IN 2
(A=B) IN 3
(A>B) IN 4
(A>B) OUT 5
(A=B) OUT 6
(A<B) OUT 7
8 GND
VDD 16
(+2 to +6V)
15 A3 IN
14 B2 IN
13 A2 IN
12 A1 IN
11 B1 IN
10 A0 IN
9 B0 IN

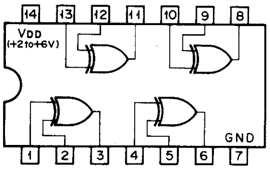

10 12 13 15
A0 A1 A2 A3
4 A>B IN
3 A=B IN
2 A<B IN
A>B OUT 5
A=B OUT 6
A<B OUT 7
B0 B1 B2 B3
9 11 14 1

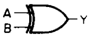
INPUTS								OUTPUTS		
DATA COMPARING					CASCADING					
	A3, B3	A2, B2	A1, B1	A0, B0	A<B	A=B	A>B	A<B	A=B	A>B
A>B	A3>B3	X	X	X	X	X	X	0	0	1
	A3=B3	A2>B2	X	X						
	A3=B3	A2=B2	A1>B1	X						
	A3=B3	A2=B2	A1=B1	A0>B0						
A=B	A3=B3	A2=B2	A1=B1	A0=B0	0	0	0	1	0	1
					0	0	1	0	0	1
					X	1	X	0	1	0
					1	0	0	1	0	0
					1	0	1	0	0	0
A<B	A3=B3	A2=B2	A1=B1	A0<B0	X	X	X	1	0	0
	A3=B3	A2=B2	A1<B1	X						
	A3=B3	A2<B2	X	X						
	A3<B3	X	X	X						

0; LOW LEVEL 1; HIGH LEVEL X; DON'T CARE

SN74HC86NS (TI) FLAT PACKAGE
TC74HC86F (TOSHIBA) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE
- TOP VIEW -


14 13 12 11 10 9 8
VDD
(+2 to +6V)
GND
1 2 3 4 5 6 7



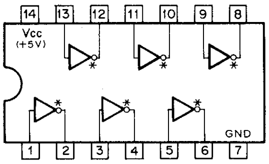
$Y = \bar{A} \cdot B + A \cdot \bar{B}$

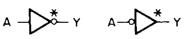
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

SN74LS05NS (TI) FLAT PACKAGE

TTL INVERTER WITH OPEN-COLLECTOR
- TOP VIEW -


14 13 12 11 10 9 8
Vcc
(+5V)
GND
1 2 3 4 5 6 7



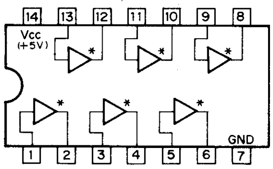
Y = $\bar{A}$

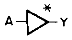
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL
✱; OPEN COLLECTOR

SN74LS07NS (TI) FLAT PACKAGE

TTL BUFFER/DRIVER WITH OPEN-COLLECTOR
- TOP VIEW -


14 13 12 11 10 9 8
Vcc
(+5V)
GND
1 2 3 4 5 6 7



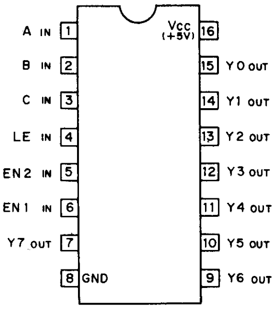
Y = A

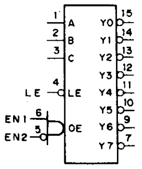
A	Y
0	0
1	1

0; LOW LEVEL
1; HIGH LEVEL
✱; OPEN COLLECTOR

SN74LS137NS (TI) FLAT PACKAGE

TTL 3-TO-8 DECODER/DEMULTIPLEXER
- TOP VIEW -


A IN 1
B IN 2
C IN 3
LE IN 4
EN2 IN 5
EN1 IN 6
Y7 OUT 7
8 GND
Vcc (+5V) 16
15 Y0 OUT
14 Y1 OUT
13 Y2 OUT
12 Y3 OUT
11 Y4 OUT
10 Y5 OUT
9 Y6 OUT

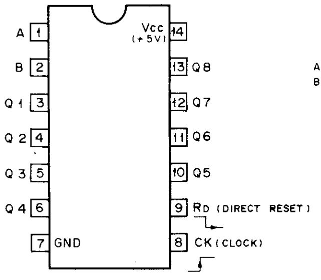

A
B
C
LE
EN1
EN2
OE
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7

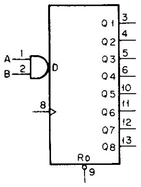
INPUTS						OUTPUTS							
LE	EN1	EN2	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
×	×	1	×	×	×	1	1	1	1	1	1	1	1
×	0	×	×	×	×	1	1	1	1	1	1	1	1
0	1	0	0	0	0	1	1	1	1	1	1	1	0
0	1	0	0	0	1	1	1	1	1	1	1	0	1
0	1	0	0	1	0	1	1	1	1	1	0	1	1
0	1	0	0	1	1	1	1	1	1	0	1	1	1
0	1	0	1	0	0	1	1	1	0	1	1	1	1
0	1	0	1	0	1	1	1	0	1	1	1	1	1
0	1	0	1	1	0	1	0	1	1	1	1	1	1
0	1	0	1	1	1	0	1	1	1	1	1	1	1
1	1	0	×	×	×	NOT CHANGE							

0 : LOW LEVEL
1 : HIGH LEVEL
×: DON'T CARE

SN74LS164NS (TI) FLAT PACKAGE

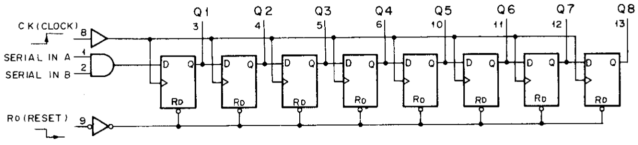
TTL 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER
- TOP VIEW -


A 1
B 2
Q1 3
Q2 4
Q3 5
Q4 6
7 GND
Vcc (+5V) 14
13 Q8
12 Q7
11 Q6
10 Q5
9 RD (DIRECT RESET)
8 CK (CLOCK)


A
B
D
8
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
RD
9

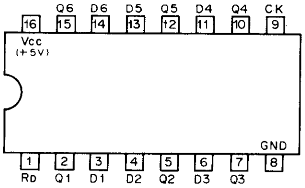
INPUTS				OUTPUTS			
RD	CK	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

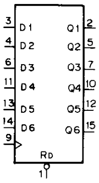
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

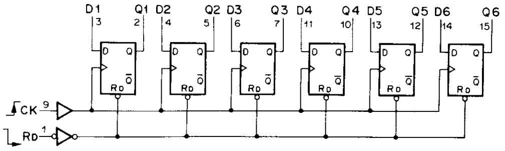

CK (CLOCK) 8
SERIAL IN A 1
SERIAL IN B 2
RD (RESET) 9
Q1 3
Q2 4
Q3 5
Q4 6
Q5 10
Q6 11
Q7 12
Q8 13
D
Q
RD

SN74LS174NS (TI) FLAT PACKAGE

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
- TOP VIEW -


Q6 D6 D5 Q5 D4 Q4 CK
16 15 14 13 12 11 10 9
Vcc (+5V)
GND
1 2 3 4 5 6 7 8
RD Q1 D1 D2 Q2 D3 Q3


D1 Q1
D2 Q2
D3 Q3
D4 Q4
D5 Q5
D6 Q6
RD
1


D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6
3 2 4 5 6 7 11 10 13 12 14 15
D Q
RD Q̄
CK 9
RD 1

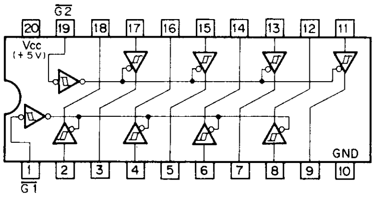
EACH FLIP-FLOP

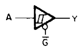
INPUTS			OUT
RD	CK	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Q0

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

SN74LS244NS (TI) FLAT PACKAGE

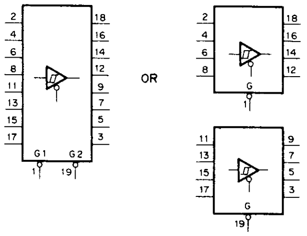
TTL 3-STATE SCHMITT TRIGGER BUFFER/DRIVER
- TOP VIEW -


G̅2
20 19 18 17 16 15 14 13 12 11
Vcc (+5V)
GND
1 2 3 4 5 6 7 8 9 10
G̅1



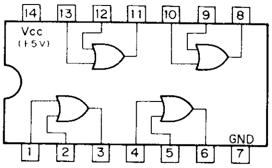
G̅	A	Y
0	0	0
0	1	1
1	X	HI-Z

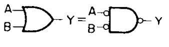
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


2 4 6 8 11 13 15 17
18 16 14 12 9 7 5 3
G1 G2
1 19
OR
G
1
19

SN74LS32NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-OR GATE
- TOP VIEW -


14 13 12 11 10 9 8
Vcc (+5V)
GND
1 2 3 4 5 6 7



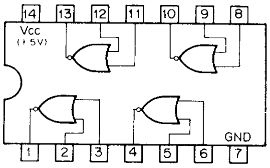
$Y = A+B = \overline{\overline{A}\cdot\overline{B}}$

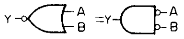
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0;LOW LEVEL
1;HIGH LEVEL

SN74S02NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-NOR GATE
- TOP VIEW -


14 13 12 11 10 9 8
Vcc (+5V)
GND
1 2 3 4 5 6 7



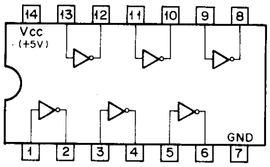
$Y=\overline{A+B}=\overline{A}\cdot\overline{B}$

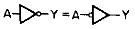
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0;LOW LEVEL
1;HIGH LEVEL

SN74S04NS (TI) FLAT PACKAGE

TTL INVERTER
- TOP VIEW -


14 13 12 11 10 9 8
Vcc (+5V)
GND
1 2 3 4 5 6 7



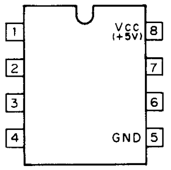
$Y=\overline{A}$

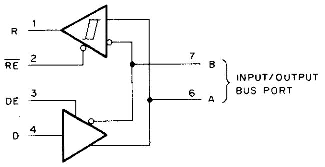
A	Y
0	1
1	0

0;LOW LEVEL
1;HIGH LEVEL

SN75176BP (TI)

TTL-DIFFERENTIAL BUS TRANSCEIVER
– TOP VIEW –


1
2
3
4
Vcc (+5V) 8
7
6
GND 5


R 1
RE 2
DE 3
D 4
7 B
6 A
INPUT/OUTPUT BUS PORT

FUNCTION TABLE

– DRIVER –

INPUT	ENABLE	OUTPUT	
D	DE	A	B
1	1	1	0
0	1	0	1
X	0	HI-Z	HI-Z

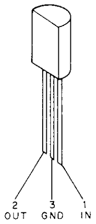
– RECEIVER –

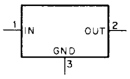
DIFFERENTIAL INPUTS A-B	ENABLE $\overline{RE}$	OUTPUT R
$V_{ID} > 0.2V$	0	1
$-0.2V < V_{ID} < 0.2V$	0	?
$V_{ID} < -0.2V$	0	0
X	1	HI-Z

1 ; HIGH LEVEL
0 ; LOW LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
? ; INDETERMINATE

TA78L ? ? ?AP (TOSHIBA)

POSITIVE VOLTAGE REGULATOR (150mA)

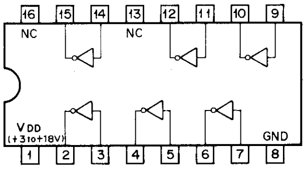

2 OUT
3 GND
1 IN

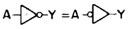

1 IN
OUT 2
GND 3

OUTPUT VOLTAGE	???
+5V	005
+6V	006
+7V	007
+7.5V	075
+8V	008
+9V	009
+10V	010
+12V	012
+13.2V	132
+15V	015
+18V	018
+20V	020
+24V	024

TC4049BF (TOSHIBA) FLAT PACKAGE

C-MOS INVERTING TYPE BUFFER/CONVERTER
– TOP VIEW –


16 15 14 13 12 11 10 9
NC
NC
VDD (+3to+18V)
GND
1 2 3 4 5 6 7 8



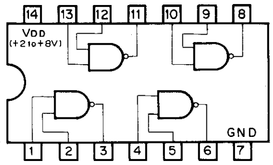
$Y = \bar{A}$

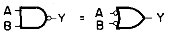
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



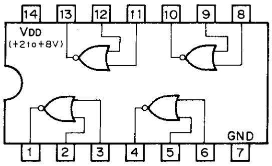
$Y = \overline{A \cdot B} = \bar{A} + \bar{B}$

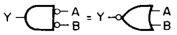
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H002F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



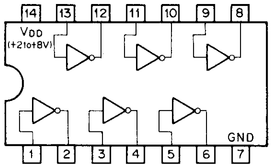
$Y = \overline{A+B}$

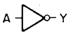
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0:LOW LEVEL
1:HIGH LEVEL

TC40H004F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



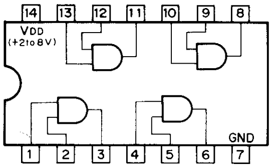
$Y = \bar{A}$

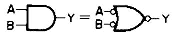
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H008F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-AND GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to8V)
GND
1 2 3 4 5 6 7



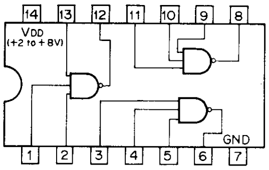
$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

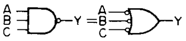
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H010F (TOSHIBA) FLAT PACKAGE

C-MOS 3-INPUT POSITIVE NAND GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2 to +8V)
GND
1 2 3 4 5 6 7



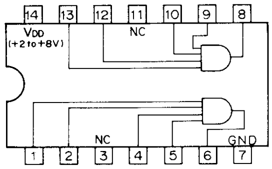
$Y = \overline{ABC} = \bar{A} + \bar{B} + \bar{C}$

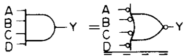
A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC40H021F (TOSHIBA) FLAT PACKAGE

C-MOS 4-INPUT POSITIVE AND GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
NC
NC
GND
1 2 3 4 5 6 7


A
B
C
D
Y
A
B
C
D
Y

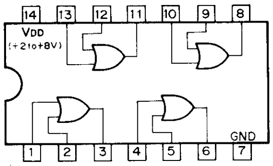
$Y = ABCD = \overline{\bar{A} + \bar{B} + \bar{C} + \bar{D}}$

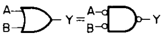
A	B	C	D	Y
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
⋮	⋮	⋮	⋮	⋮
1	1	0	1	0
1	1	1	0	0
1	1	1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H032F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-OR GATE
– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



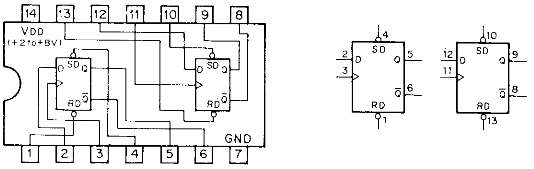
$Y = A + B = \overline{\bar{A} \cdot \bar{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H074F (TOSHIBA) FLAT PACKAGE

C-MOS HIGH SPEED D-TYPE FLIP-FLOP WITH DIRECT SET/RESET
- TOP VIEW -


14
13
12
11
10
9
8
VDD (+2 to +8V)
D
SD
Q
RD
Q̄
GND
1
2
3
4
5
6
7

D - MODE

tn	tn + 1	
D	Q	Q̄
0	0	1
1	1	0

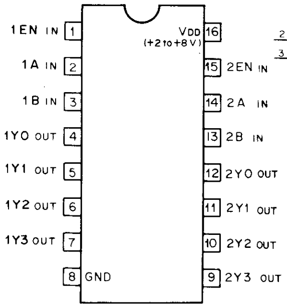
R-S MODE

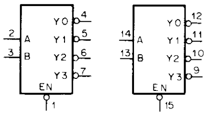
INPUT		OUTPUT	
RD	SD	Q	Q̄
0	0	1	1
0	1	0	1
1	0	1	0
1	1	D-MODE	

0; LOW LEVEL
1; HIGH LEVEL

TC40H139F (TOSHIBA) FLAT PACKAGE

C-MOS 2-TO-4-LINE DECODER/DEMULTIPLXER
- TOP VIEW -


1EN IN 1
1A IN 2
1B IN 3
1Y0 OUT 4
1Y1 OUT 5
1Y2 OUT 6
1Y3 OUT 7
8 GND
VDD (+2 to +8V) 16
15 2EN IN
14 2A IN
13 2B IN
12 2Y0 OUT
11 2Y1 OUT
10 2Y2 OUT
9 2Y3 OUT

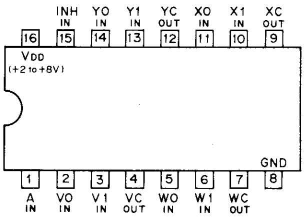

A
B
Y0
Y1
Y2
Y3
EN

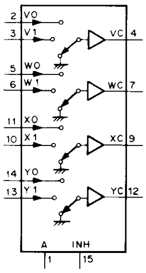
INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC40H157F (TOSHIBA) FLAT PACKAGE

C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
- TOP VIEW -


INH IN
Y0 IN
Y1 IN
YC OUT
X0 IN
X1 IN
XC OUT
16
15
14
13
12
11
10
9
VDD (+2 to +8V)
GND
1
2
3
4
5
6
7
8
A IN
V0 IN
V1 IN
VC OUT
W0 IN
W1 IN
WC OUT

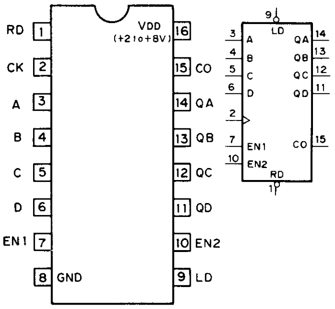

V0
V1
VC
W0
W1
WC
X0
X1
XC
Y0
Y1
YC
A
INH

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

TC40H163F (TOSHIBA) FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
- TOP VIEW -


RD 1
CK 2
A 3
B 4
C 5
D 6
EN1 7
8 GND
VDD (+2 to +8V) 16
15 CO
14 QA
13 QB
12 QC
11 QD
10 EN2
9 LD
LD
A
B
C
D
QA
QB
QC
QD
EN1
EN2
CO
RD

MODE SELECTION

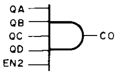
CONT. INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
⋮	⋮	⋮	⋮	⋮
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

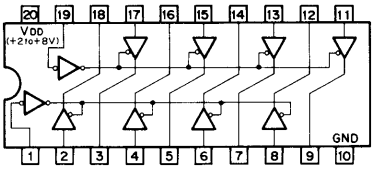
CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

CO GOES HIGH WHEN EN2 IS HIGH AND COUNT IS "15".

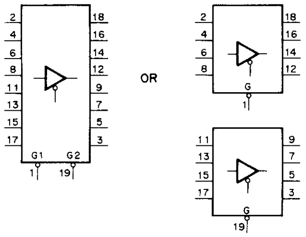
TC40H244F (TOSHIBA) FLAT PACKAGE

C-MOS 3-STATE BUFFER/DRIVER
- TOP VIEW -


20
19
18
17
16
15
14
13
12
11
VDD (+2 to +8V)
GND
1
2
3
4
5
6
7
8
9
10

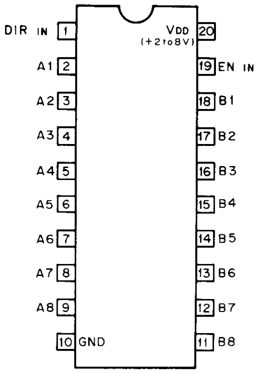
G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE



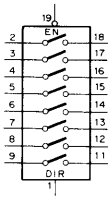
TC40H245F (TOSHIBA) FLAT PACKAGE

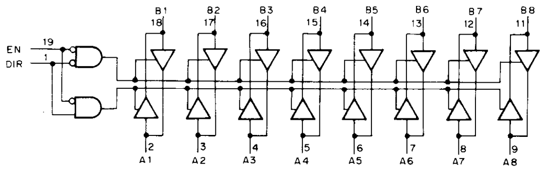
C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUT
- TOP VIEW -


DIR IN 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
10 GND
VDD (+2 to 8V) 20
19 EN IN
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI - Z

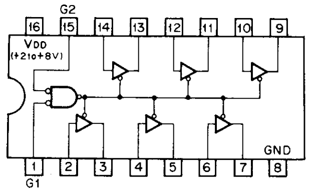
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

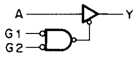



B1
B2
B3
B4
B5
B6
B7
B8
EN
DIR
A1
A2
A3
A4
A5
A6
A7
A8

TC40H365F (TOSHIBA) FLAT PACKAGE

C-MOS BUS INVERTER WITH 3-STATE OUTPUTS
– TOP VIEW –


G2
16
15
14
13
12
11
10
9
VDD
(+2to+8V)
GND
1
2
3
4
5
6
7
8
G1

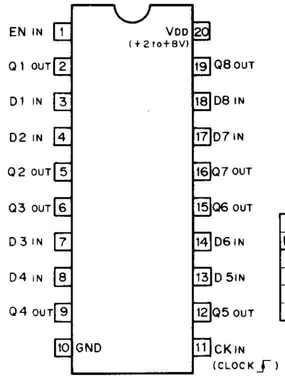


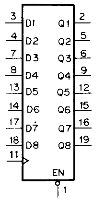
A	G1	G2	Y
0	0	0	0
1	0	0	1
X	1	X	HI-Z
X	X	1	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

TC40H374F (TOSHIBA) FLAT PACKAGE

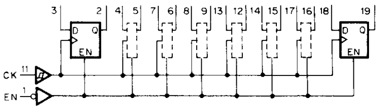
C-MOS 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP
– TOP VIEW –


EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
VDD (+2to+8V) 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 CK IN
(CLOCK ʃ)


3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
11
EN
1

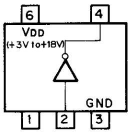
INPUTS			OUT
EN	D	CK	Q
0	1	↑	1
0	0	↑	0
0	X	0	Qo
1	X	X	HI-Z

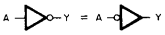
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D
Q
EN
CK 11
EN 1

TC4S69F (TOSHIBA) FLAT PACKAGE
TC4SU69F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER BUFFER
– TOP VIEW –


6
4
VDD
(+3V to+18V)
GND
1
2
3



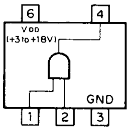
$Y = \overline{A}$

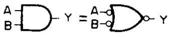
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
– TOP VIEW –


6
4
VDD
(+3to+18V)
GND
1
2
3



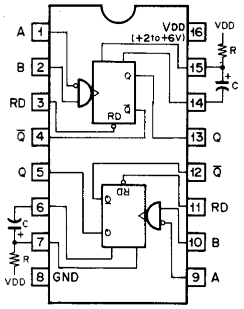
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0: LOW LEVEL
1: HIGH LEVEL

TC74HC123F (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
– TOP VIEW –


A 1
B 2
RD 3
Q̄ 4
Q 5
6
7
VDD 8 GND
VDD (+2to+6V) 16
VDD
R
C
15
14
13 Q
12 Q̄
11 RD
10 B
9 A
Q
Q̄
RD
C
R

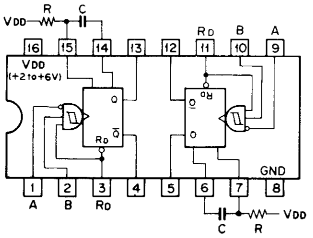
INPUT			OUTPUT	
RD	A	B	Q	Q̄
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.46CR

TC74HC221F (TOSHIBA) FLAT PACKAGE

C-MOS MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
– TOP VIEW –


R
C
VDD
RD
B
A
16
15
14
13
12
11
10
9
VDD
(+2to+6V)
Q
RD
Q̄
GND
1
2
3
4
5
6
7
8
A
B
RD
VDD
C
R

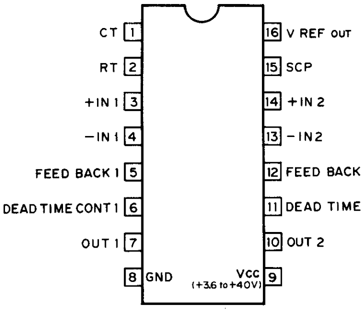
INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

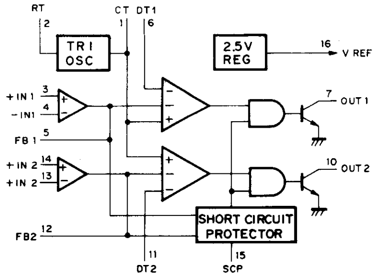
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

TL1451ACNS (TI) FLAT PACKAGE

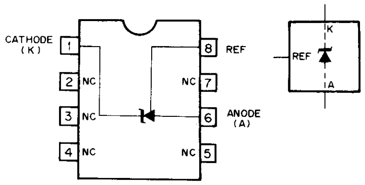
DUAL PWM POWER CONTROLLER
– TOP VIEW –


CT 1
RT 2
+IN 1 3
−IN 1 4
FEED BACK 1 5
DEAD TIME CONT 1 6
OUT 1 7
8 GND
16 V REF OUT
15 SCP
14 +IN 2
13 −IN 2
12 FEED BACK 2
11 DEAD TIME CONT 2
10 OUT 2
VCC (+3.6 to+40V) 9


RT
2
CT
1
DT1
6
TRI OSC
2.5V REG
16
V REF
+IN 1 3
−IN1 4
FB 1 5
+IN 2 14
+IN 2 13
FB2 12
7
OUT 1
10
OUT 2
SHORT CIRCUIT PROTECTOR
11
DT2
15
SCP

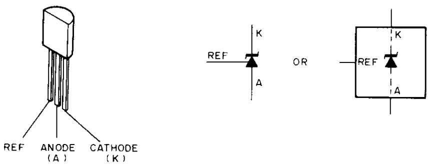
TL431CLP (TI)
TL431CLPB (TI)

ADJUSTABLE PRECISION SHUNT REGULATOR


CATHODE (K)
1
2 NC
3 NC
4 NC
8 REF
NC 7
6 ANODE (A)
NC 5
REF
K
A

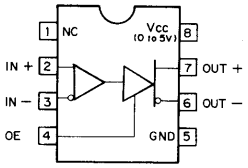
TL431CP (TI)
TL431CPS (TI) FLAT PACKAGE

ADJUSTABLE PRECISION SHUNT REGULATOR
- TOP VIEW -


REF
ANODE (A)
CATHODE (K)
REF
K
A
OR
REF
K
A

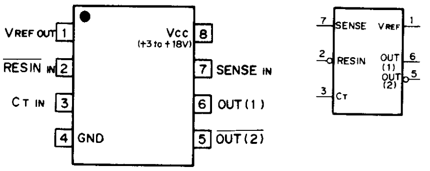
TL712CPS (TI) FLAT PACKAGE

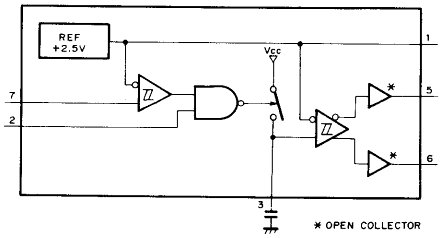
HIGH SPEED COMPARATOR (TTL OUTPUT)
- TOP VIEW -


1 NC
Vcc (0 to 5V) 8
IN + 2
IN − 3
OE 4
7 OUT +
6 OUT −
GND 5

TL7705CPS-B (TI) FLAT PACKAGE

POWER VOLTAGE SUPERVISOR
- TOP VIEW -

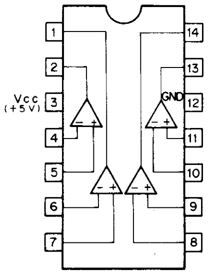

VREF OUT 1
RESIN IN 2
CT IN 3
4 GND
Vcc (+3 to +18V) 8
7 SENSE IN
6 OUT(1)
5 OUT(2)
7 SENSE
VREF 1
2 RESIN
OUT (1) 6
OUT (2) 5
3 CT


REF +2.5V
Vcc
1
7
2
5
6
3
*
*

* OPEN COLLECTOR

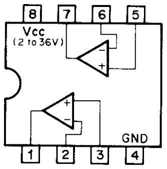
uPC339G2 (NEC) FLAT PACKAGE

COMPARATOR
- TOP VIEW -


1
2
Vcc (+5V) 3
4
5
6
7
14
13
GND 12
11
10
9
8

uPC393G2 (NEC) FLAT PACKAGE

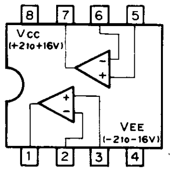
VOLTAGE COMPARATOR
- TOP VIEW -


8
7
6
5
Vcc (2 to 36V)
GND
1
2
3
4

uPC4062G2 (NEC) FLAT PACKAGE

TTL-DUAL OPERATIONAL AMPLIFIER

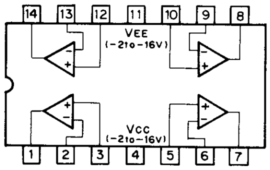
WITH LOW POWER CONSUMPTION
- TOP VIEW -


8
7
6
5
Vcc (+2 to +16V)
VEE (−2 to −16V)
1
2
3
4

uPC4064G (NEC) FLAT PACKAGE

TTL-QUAD OPERATIONAL AMPLIFIER

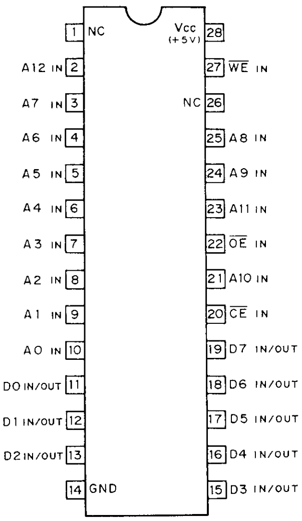
WITH LOW POWER CONSUMPTION
- TOP VIEW -

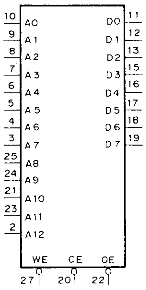

14
13
12
11
10
9
8
VEE (−2 to −16V)
Vcc (−2 to −16V)
1
2
3
4
5
6
7

uPD28C64C-25 (NEC) (ACCESS TIME = 250nS)

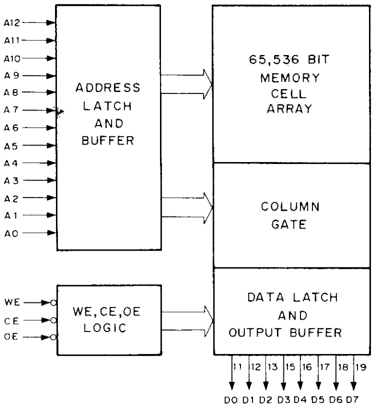
C-MOS 64K (8Kx8) ELECTRICALLY ERASABLE PROM

– TOP VIEW –


1 NC
2 A12 IN
3 A7 IN
4 A6 IN
5 A5 IN
6 A4 IN
7 A3 IN
8 A2 IN
9 A1 IN
10 A0 IN
11 D0 IN/OUT
12 D1 IN/OUT
13 D2 IN/OUT
14 GND
28 Vcc (+5V)
27 $\overline{WE}$ IN
26 NC
25 A8 IN
24 A9 IN
23 A11 IN
22 $\overline{OE}$ IN
21 A10 IN
20 $\overline{CE}$ IN
19 D7 IN/OUT
18 D6 IN/OUT
17 D5 IN/OUT
16 D4 IN/OUT
15 D3 IN/OUT


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
WE 27
CE 20
OE 22

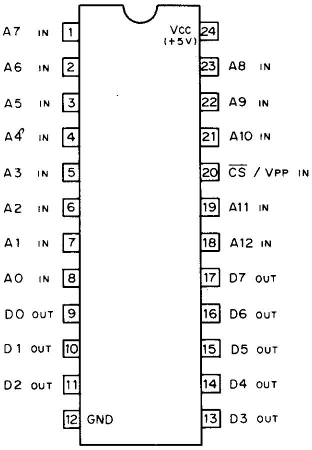
A0 – A12 ; ADDRESS INPUTS
D0 – D7 ; DATA INPUTS/OUTPUTS
WE ; WRITE ENABLE INPUT
CE ; CHIP ENABLE INPUT
OE ; OUTPUT ENABLE INPUT

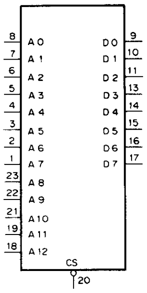

A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
ADDRESS LATCH AND BUFFER
65,536 BIT MEMORY CELL ARRAY
COLUMN GATE
WE
CE
OE
WE,CE,OE LOGIC
DATA LATCH AND OUTPUT BUFFER
11 12 13 15 16 17 18 19
D0 D1 D2 D3 D4 D5 D6 D7

WS57C49B-35D (WSI)
WS57C49B-35T (WSI)

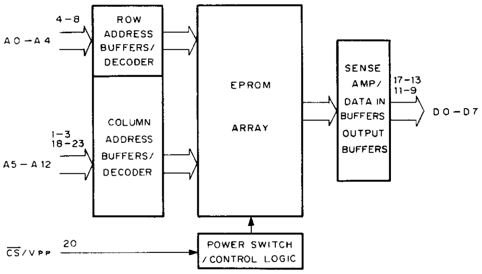
C-MOS 64K (8Kx8) BIT HIGH SPEED ERASABLE PROM.

– TOP VIEW –


1 A7 IN
2 A6 IN
3 A5 IN
4 A4 IN
5 A3 IN
6 A2 IN
7 A1 IN
8 A0 IN
9 D0 OUT
10 D1 OUT
11 D2 OUT
12 GND
24 Vcc (+5V)
23 A8 IN
22 A9 IN
21 A10 IN
20 $\overline{CS}$ / VPP IN
19 A11 IN
18 A12 IN
17 D7 OUT
16 D6 OUT
15 D5 OUT
14 D4 OUT
13 D3 OUT

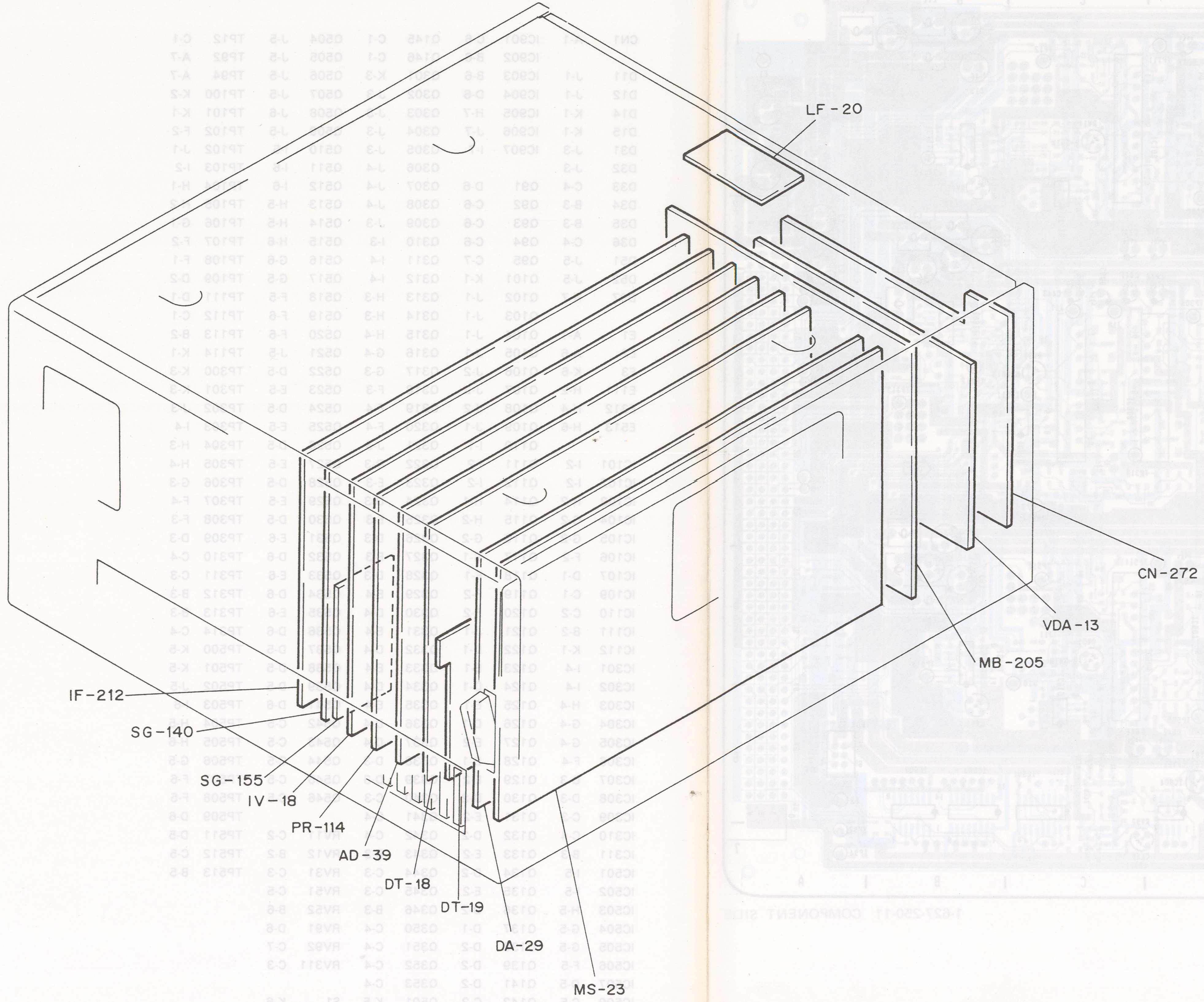

8 A0
7 A1
6 A2
5 A3
4 A4
3 A5
2 A6
1 A7
23 A8
22 A9
21 A10
19 A11
18 A12
D0 9
D1 10
D2 11
D3 13
D4 14
D5 15
D6 16
D7 17
CS 20

A0-A12 ; ADDRESS INPUTS
D0-D7 ; DATA OUTPUTS
$\overline{CS}$; CHIP SELECT INPUT
Vpp ; PROGRAM POWER SUPPLY


4–8
A0 – A4
ROW ADDRESS BUFFERS/ DECODER
1–3
18–23
A5 – A12
COLUMN ADDRESS BUFFERS/ DECODER
EPROM ARRAY
SENSE AMP/ DATA IN BUFFERS OUTPUT BUFFERS
17–13
11–9
D0 – D7
$\overline{CS}$/VPP
20
POWER SWITCH /CONTROL LOGIC

SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATION

BOARD LAYOUT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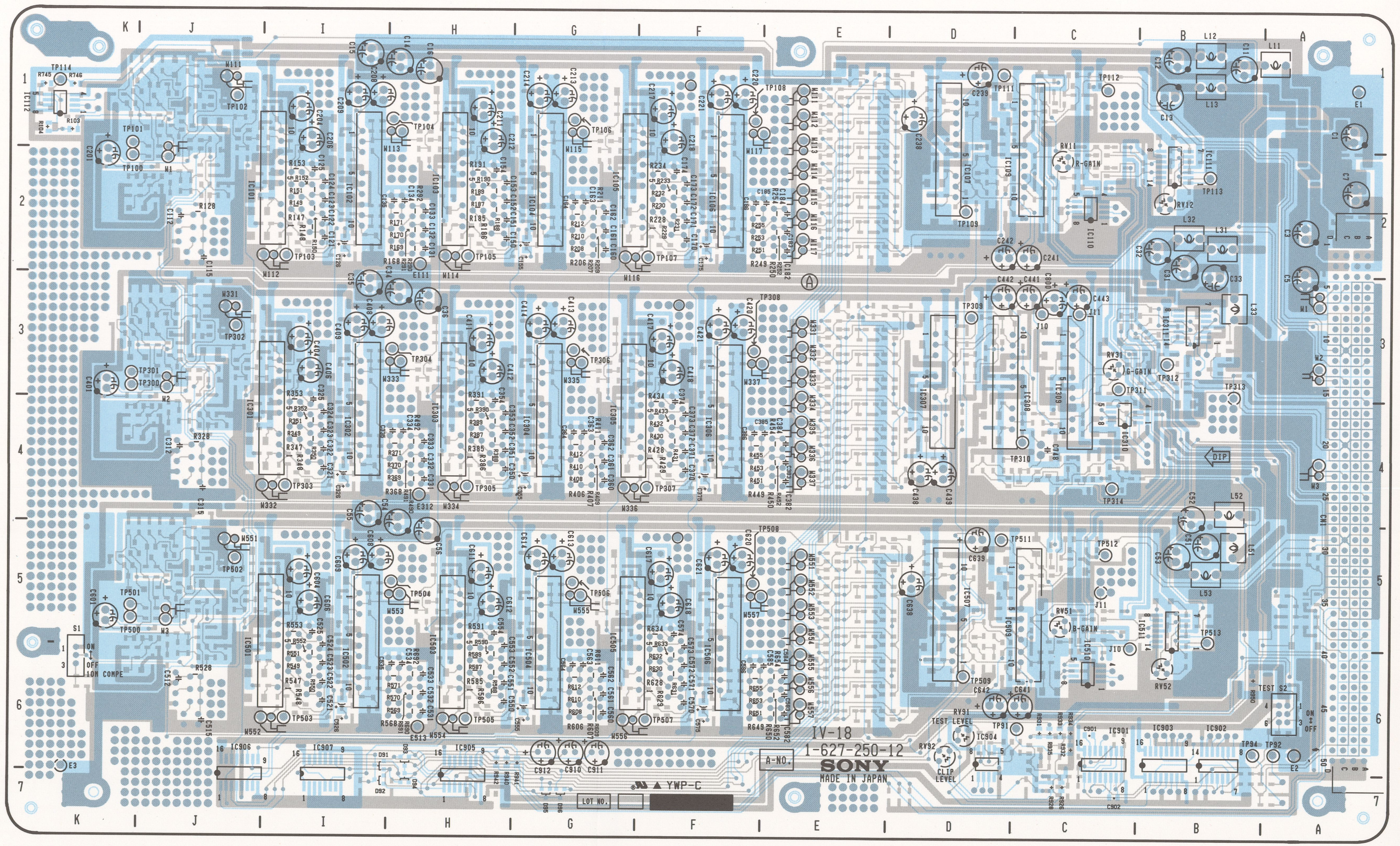
CN-272
VDA-13
MB-205
IF-212
SG-140
SG-155
IV-18
PR-114
AD-39
DT-18
DT-19
DA-29
MS-23

IV-18 BOARD

Serial No. 10201 –

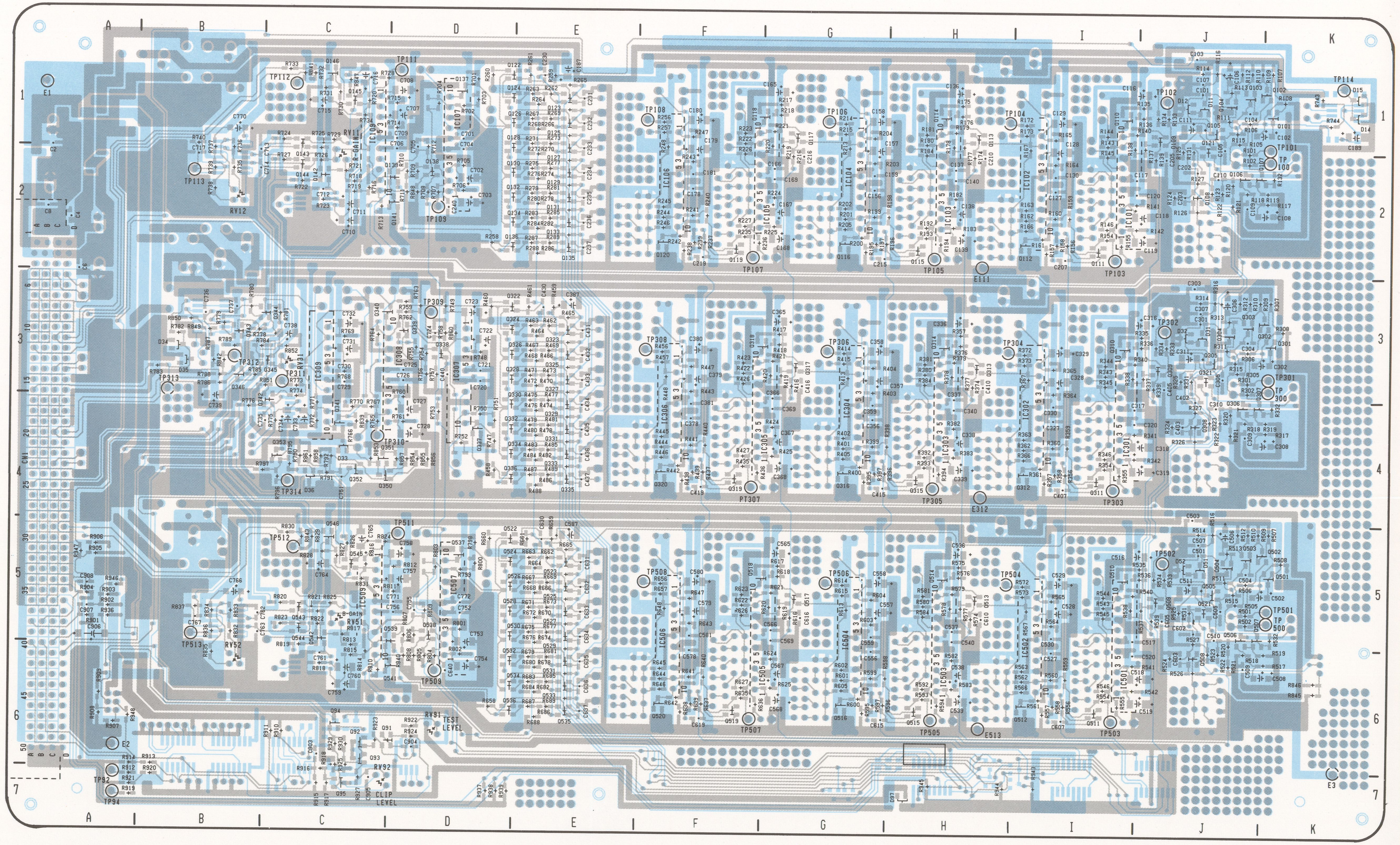


1-627-250-12 COMPONENT SIDE

IV-18 1-627-250-12

CN1	A-4	IC506	F-6	Q138	D-2	Q351	C-4	RV92	D-6
D11	J-1	IC507	D-5	Q139	D-2	Q352	C-4		
D12	J-1	IC509	D-5	Q141	D-2	Q353	C-4		
D14	K-1	IC510	C-6	Q142	C-2	Q501	K-5		
D15	K-1	IC511	B-5	Q143	C-2	Q502	K-5		
D31	J-3	IC901	C-6	Q144	C-2	Q503	J-5		
D32	J-3	IC902	B-6	Q145	C-1	Q504	J-5		
D33	C-4	IC903	B-6	Q146	C-1	Q505	J-5		
D34	B-3	IC904	D-6	Q301	K-3	Q506	J-5		
D35	B-3	IC905	H-6	Q302	K-3	Q507	J-5		
D36	C-4	IC906	J-6	Q303	J-3	Q508	J-6		
D51	J-5	IC907	I-6	Q304	J-3	Q509	J-5		
D52	J-5			Q305	J-3	Q510	I-5		
D91	I-6	Q91	D-6	Q306	J-4	Q511	I-6		
D92	I-7	Q92	C-6	Q307	J-3	Q512	I-6		
D93	H-6	Q93	C-6	Q308	J-4	Q513	H-5		
D94	H-7	Q94	C-6	Q309	J-3	Q514	H-5		
D95	G-7	Q95	C-7	Q310	I-3	Q515	H-6		
D96	G-7	Q101	K-1	Q311	I-4	Q516	G-6		
D97	H-7	Q102	K-1	Q312	I-4	Q517	G-5		
		Q103	J-1	Q313	H-3	Q518	F-5		
E1	A-1	Q104	J-1	Q314	H-3	Q519	F-6		
E2	A-6	Q105	J-1	Q315	H-4	Q520	F-6		
E3	K-6	Q106	J-2	Q316	G-4	Q521	J-5		
E111	H-3	Q107	J-2	Q317	G-3	Q522	D-5		
E312	H-4	Q108	J-2	Q318	F-3	Q523	E-5		
E513	H-6	Q109	J-1	Q319	F-4	Q524	D-5		
		Q110	I-1	Q320	F-4	Q525	E-5		
IC101	J-2	Q111	I-2	Q321	J-3	Q526	E-5		
IC102	I-2	Q112	I-2	Q322	D-3	Q527	E-5		
IC103	H-2	Q113	H-1	Q323	E-3	Q528	D-5		
IC104	G-2	Q114	H-1	Q324	D-3	Q529	E-6		
IC105	G-2	Q115	H-2	Q325	E-3	Q530	E-5		
IC106	F-2	Q116	G-2	Q326	D-3	Q531	E-6		
IC107	D-2	Q117	G-1	Q327	E-3	Q532	D-6		
IC109	D-2	Q118	F-1	Q328	D-3	Q533	E-6		
IC110	C-2	Q119	F-2	Q329	E-4	Q534	D-6		
IC111	B-2	Q120	F-2	Q330	E-3	Q535	E-6		
IC112	K-1	Q121	J-1	Q331	E-4	Q536	D-6		
IC301	J-4	Q122	D-1	Q332	D-4	Q537	D-5		
IC302	I-4	Q123	E-1	Q333	E-4	Q538	D-5		
IC303	H-4	Q124	D-1	Q334	D-4	Q539	D-5		
IC304	G-4	Q125	E-1	Q335	E-4	Q541	D-6		
IC305	G-4	Q126	D-1	Q336	D-4	Q542	C-5		
IC306	F-4	Q127	E-2	Q337	D-4	Q543	C-5		
IC307	D-4	Q128	D-1	Q338	D-3	Q544	C-5		
IC308	C-4	Q129	E-2	Q339	D-3	Q545	C-5		
IC309	C-3	Q130	D-2	Q340	C-3	Q546	C-5		
IC310	C-4	Q131	E-2	Q341	C-4				
IC311	B-3	Q132	D-2	Q342	B-4	RV11	C-1		
IC501	J-6	Q133	E-2	Q343	B-3	RV12	B-2		
IC502	I-6	Q134	D-2	Q344	C-3	RV31	C-3		
IC503	H-6	Q135	E-2	Q345	C-3	RV51	C-5		
IC504	G-6	Q136	D-2	Q346	B-3	RV52	B-6		
IC505	G-5	Q137	D-1	Q350	C-4	RV91	D-6		

IV-18 BOARD Serial No. 10001 – 10120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TP511
TP512
TP513
RV12
RV51
RV52
RV91
RV92
TEST LEVEL
CLIP LEVEL

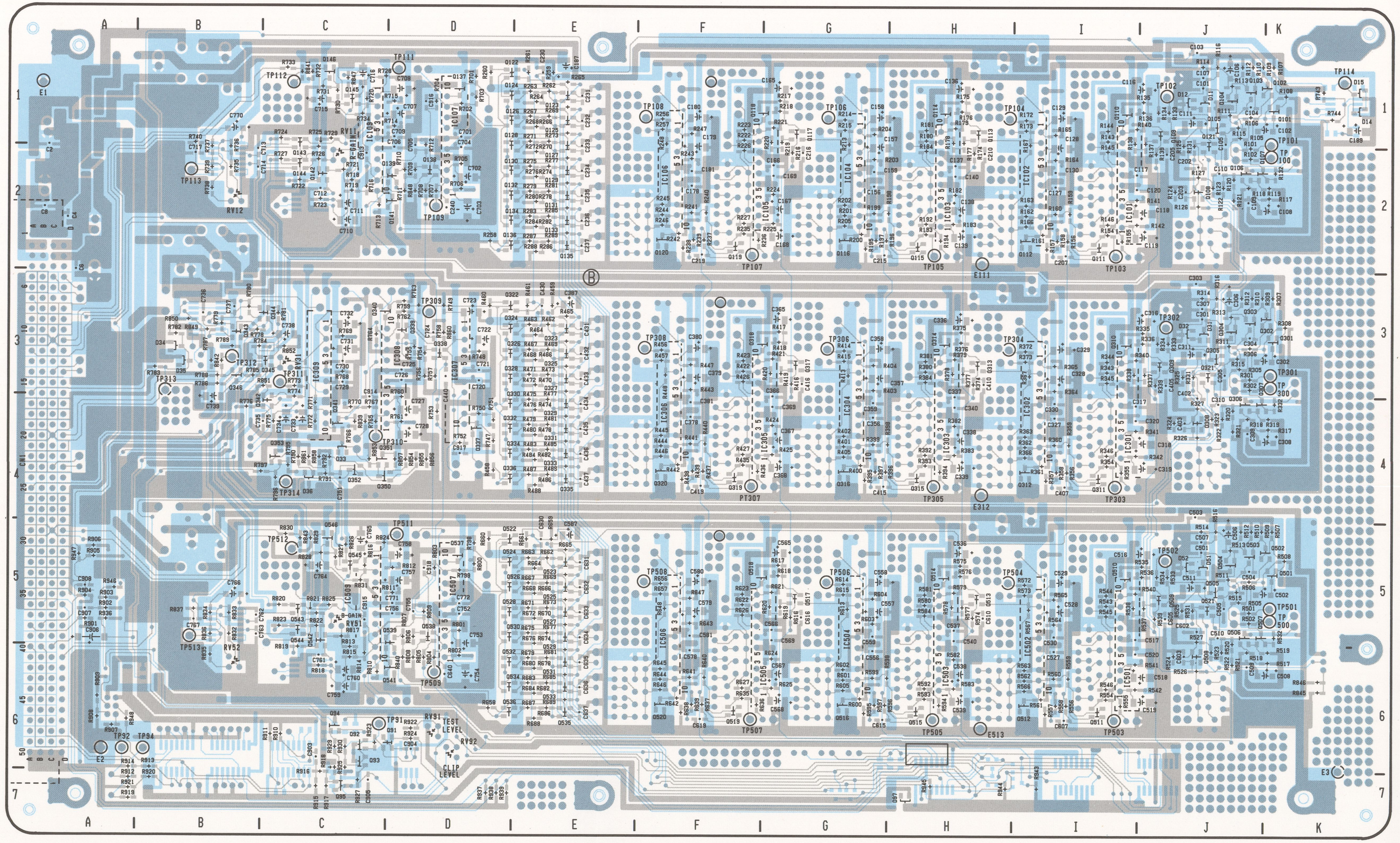
1-627-250-11 SOLDERING SIDE

IV-18 1-627-250-11

CN1	A-1	IC901	C-6	Q145	C-1	Q504	J-5	TP12	C-1
		IC902	B-6	Q146	C-1	Q505	J-5	TP92	A-7
D11	J-1	IC903	B-6	Q301	K-3	Q506	J-5	TP94	A-7
D12	J-1	IC904	D-6	Q302	J-3	Q507	J-5	TP100	K-2
D14	K-1	IC905	H-7	Q303	J-3	Q508	J-6	TP101	K-1
D15	K-1	IC906	J-7	Q304	J-3	Q509	J-5	TP102	F-2
D31	J-3	IC907	I-7	Q305	J-3	Q510	I-5	TP102	J-1
D32	J-3			Q306	J-4	Q511	I-6	TP103	I-2
D33	C-4	Q91	D-6	Q307	J-4	Q512	I-6	TP104	H-1
D34	B-3	Q92	C-6	Q308	J-4	Q513	H-5	TP105	H-2
D35	B-3	Q93	C-6	Q309	J-3	Q514	H-5	TP106	G-1
D36	C-4	Q94	C-6	Q310	I-3	Q515	H-6	TP107	F-2
D51	J-5	Q95	C-7	Q311	I-4	Q516	G-6	TP108	F-1
D52	J-5	Q101	K-1	Q312	I-4	Q517	G-5	TP109	D-2
D97	H-7	Q102	J-1	Q313	H-3	Q518	F-5	TP111	D-1
		Q103	J-1	Q314	H-3	Q519	F-6	TP112	C-1
E1	A-1	Q104	J-1	Q315	H-4	Q520	F-6	TP113	B-2
E2	A-6	Q105	J-1	Q316	G-4	Q521	J-5	TP114	K-1
E3	K-6	Q106	J-2	Q317	G-3	Q522	D-5	TP300	K-3
E111	H-2	Q107	J-2	Q318	F-3	Q523	E-5	TP301	K-3
E312	H-4	Q108	J-2	Q319	F-4	Q524	D-5	TP302	J-3
E513	H-6	Q109	J-1	Q320	F-4	Q525	E-5	TP303	I-4
		Q110	I-1	Q321	J-3	Q526	D-5	TP304	H-3
IC101	I-2	Q111	I-2	Q322	D-3	Q527	E-5	TP305	H-4
IC102	I-2	Q112	I-2	Q323	E-3	Q528	D-5	TP306	G-3
IC103	H-2	Q114	H-1	Q324	D-3	Q529	E-5	TP307	F-4
IC104	G-2	Q115	H-2	Q325	E-3	Q530	D-5	TP308	F-3
IC105	G-2	Q116	G-2	Q326	D-3	Q531	E-6	TP309	D-3
IC106	F-2	Q117	G-1	Q327	E-3	Q532	D-6	TP310	C-4
IC107	D-1	Q118	F-1	Q328	D-3	Q533	E-6	TP311	C-3
IC109	C-1	Q119	F-2	Q329	E-4	Q534	D-6	TP312	B-3
IC110	C-2	Q120	F-2	Q330	D-4	Q535	E-6	TP313	B-3
IC111	B-2	Q121	J-1	Q331	E-4	Q536	D-6	TP314	C-4
IC112	K-1	Q122	D-1	Q332	D-4	Q537	D-5	TP500	K-5
IC301	I-4	Q123	E-1	Q333	E-4	Q538	D-5	TP501	K-5
IC302	I-4	Q124	D-1	Q334	D-4	Q539	D-5	TP502	J-5
IC303	H-4	Q125	E-1	Q335	E-4	Q541	D-6	TP503	I-6
IC304	G-4	Q126	D-1	Q336	D-4	Q542	C-5	TP504	H-5
IC305	G-4	Q127	E-2	Q337	D-4	Q543	C-5	TP505	H-6
IC306	F-4	Q128	D-1	Q338	D-3	Q544	C-5	TP506	G-5
IC307	D-3	Q129	E-2	Q339	D-3	Q545	C-5	TP507	F-6
IC308	D-3	Q130	D-2	Q340	C-3	Q546	C-5	TP508	F-5
IC309	C-3	Q131	E-2	Q341	C-4			TP509	D-6
IC310	C-4	Q132	D-2	Q342	C-4	RV11	C-2	TP511	D-5
IC311	B-3	Q133	E-2	Q343	B-3	RV12	B-2	TP512	C-5
IC501	I-5	Q134	D-2	Q344	C-3	RV31	C-3	TP513	B-5
IC502	I-5	Q135	E-2	Q345	C-3	RV51	C-5		
IC503	H-5	Q136	D-2	Q346	B-3	RV52	B-6		
IC504	G-5	Q137	D-1	Q350	C-4	RV91	D-6		
IC505	G-5	Q138	D-2	Q351	C-4	RV92	C-7		
IC506	F-5	Q139	D-2	Q352	C-4	RV311	C-3		
IC507	D-5	Q141	D-2	Q353	C-4				
IC509	C-5	Q142	C-2	Q501	K-5	S1	K-6		
IC510	C-6	Q143	C-1	Q502	J-5	S2	A-6		
IC511	B-5	Q144	C-2	Q503	J-5				

IV-18 BOARD

Serial No. 10201 –



1-627-250-12 SOLDERING SIDE

IV-18 1-627-250-12

CN1	A-4	IC506	F-6	Q138	D-2	Q351	C-4	RV92	D-6
D11	J-1	IC507	D-5	Q139	D-2	Q352	C-4		
D12	J-1	IC509	D-5	Q141	D-2	Q353	C-4		
D14	K-1	IC510	C-6	Q142	C-2	Q501	K-5		
D15	K-1	IC511	B-5	Q143	C-2	Q502	K-5		
D31	J-3	IC901	C-6	Q144	C-2	Q503	J-5		
D32	J-3	IC902	B-6	Q145	C-1	Q504	J-5		
D33	C-4	IC903	B-6	Q146	C-1	Q505	J-5		
D34	B-3	IC904	D-6	Q301	K-3	Q506	J-5		
D35	B-3	IC905	H-6	Q302	K-3	Q507	J-5		
D36	C-4	IC906	J-6	Q303	J-3	Q508	J-6		
D51	J-5	IC907	I-6	Q304	J-3	Q509	J-5		
D52	J-5			Q305	J-3	Q510	I-5		
D91	I-6	Q91	D-6	Q306	J-4	Q511	I-6		
D92	I-7	Q92	C-6	Q307	J-3	Q512	I-6		
D93	H-6	Q93	C-6	Q308	J-4	Q513	H-5		
D94	H-7	Q94	C-6	Q309	J-3	Q514	H-5		
D95	G-7	Q95	C-7	Q310	I-3	Q515	H-6		
D96	G-7	Q101	K-1	Q311	I-4	Q516	G-6		
D97	H-7	Q102	K-1	Q312	I-4	Q517	G-5		
		Q103	J-1	Q313	H-3	Q518	F-5		
E1	A-1	Q104	J-1	Q314	H-3	Q519	F-6		
E2	A-6	Q105	J-1	Q315	H-4	Q520	F-6		
E3	K-6	Q106	J-2	Q316	G-4	Q521	J-5		
E111	H-3	Q107	J-2	Q317	G-3	Q522	D-5		
E312	H-4	Q108	J-2	Q318	F-3	Q523	E-5		
E513	H-6	Q109	J-1	Q319	F-4	Q524	D-5		
		Q110	I-1	Q320	F-4	Q525	E-5		
IC101	J-2	Q111	I-2	Q321	J-3	Q526	E-5		
IC102	I-2	Q112	I-2	Q322	D-3	Q527	E-5		
IC103	H-2	Q113	H-1	Q323	E-3	Q528	D-5		
IC104	G-2	Q114	H-1	Q324	D-3	Q529	E-6		
IC105	G-2	Q115	H-2	Q325	E-3	Q530	E-5		
IC106	F-2	Q116	G-2	Q326	D-3	Q531	E-6		
IC107	D-2	Q117	G-1	Q327	E-3	Q532	D-6		
IC109	D-2	Q118	F-1	Q328	D-3	Q533	E-6		
IC110	C-2	Q119	F-2	Q329	E-4	Q534	D-6		
IC111	B-2	Q120	F-2	Q330	E-3	Q535	E-6		
IC112	K-1	Q121	J-1	Q331	E-4	Q536	D-6		
IC301	J-4	Q122	D-1	Q332	D-4	Q537	D-5		
IC302	I-4	Q123	E-1	Q333	E-4	Q538	D-5		
IC303	H-4	Q124	D-1	Q334	D-4	Q539	D-5		
IC304	G-4	Q125	E-1	Q335	E-4	Q541	D-6		
IC305	G-4	Q126	D-1	Q336	D-4	Q542	C-5		
IC306	F-4	Q127	E-2	Q337	D-4	Q543	C-5		
IC307	D-4	Q128	D-1	Q338	D-3	Q544	C-5		
IC308	C-4	Q129	E-2	Q339	D-3	Q545	C-5		
IC309	C-3	Q130	D-2	Q340	C-3	Q546	C-5		
IC310	C-4	Q131	E-2	Q341	C-4				
IC311	B-3	Q132	D-2	Q342	B-4	RV11	C-1		
IC501	J-6	Q133	E-2	Q343	B-3	RV12	B-2		
IC502	I-6	Q134	D-2	Q344	C-3	RV31	C-3		
IC503	H-6	Q135	E-2	Q345	C-3	RV51	C-5		
IC504	G-6	Q136	D-2	Q346	B-3	RV52	B-6		
IC505	G-5	Q137	D-1	Q350	C-4	RV91	D-6		

IV-18 BOARD

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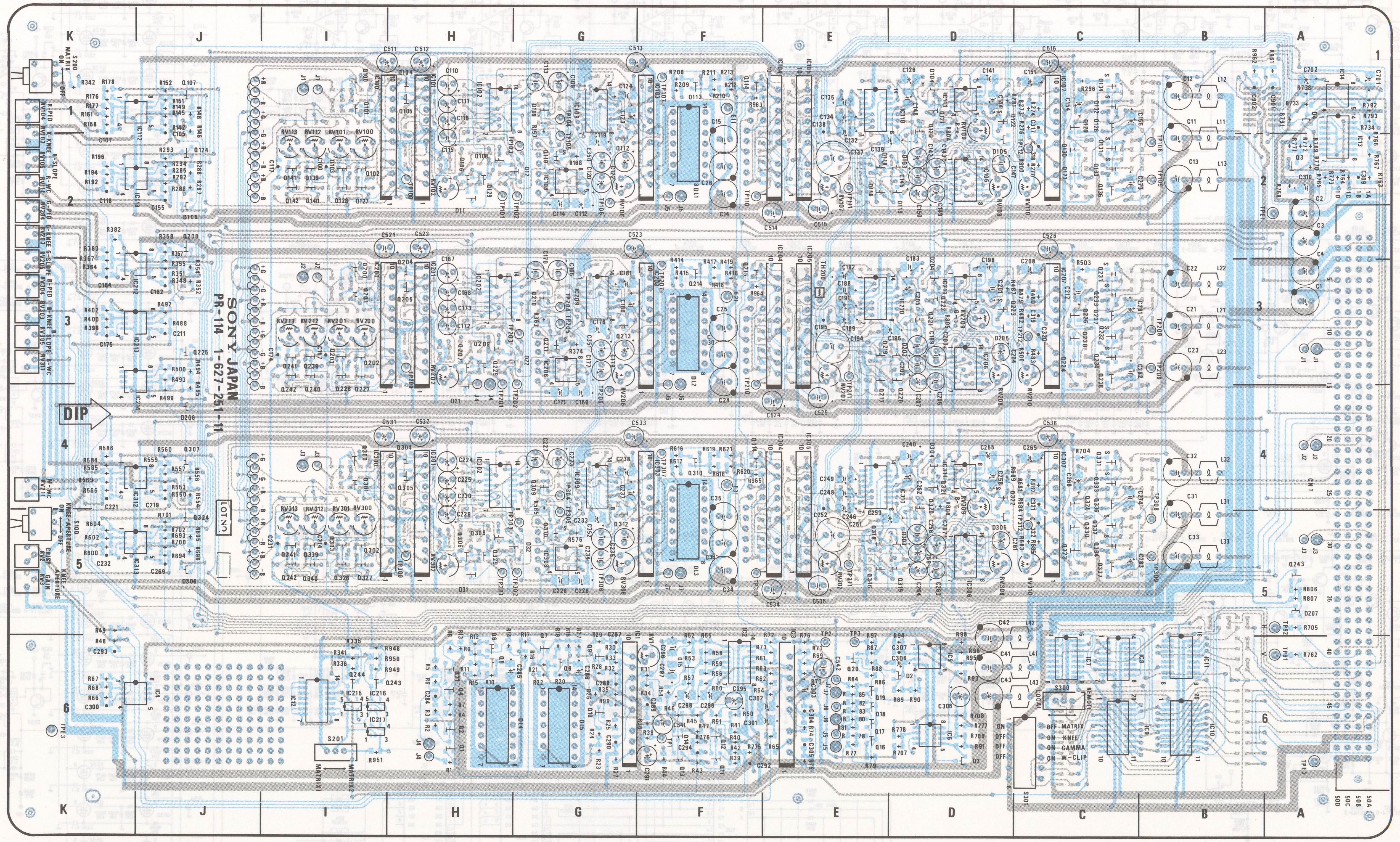
* NOTE

REF No.	CHANGE INFORMATION	SER No.
C154 C186 C354 C386 C554 C586	12P → 18P	10101-
*1 C919 C920 C921	DELETE	10105-
*2 C705 C724 C755	0.1 → 1	
*2 C922 C923 C924	ADD	
*3 R932 TP91	ADD	10201-
*3 C108 C308 C508	10 10V → 1 16V	
*4 C175	4.7 10V → 1 16V	10301-
*5 IC905	TC4028BF → MC14028BF	10401-

IV-18 BOARD

PR-114 BOARD

Serial No. 10001 – 10120



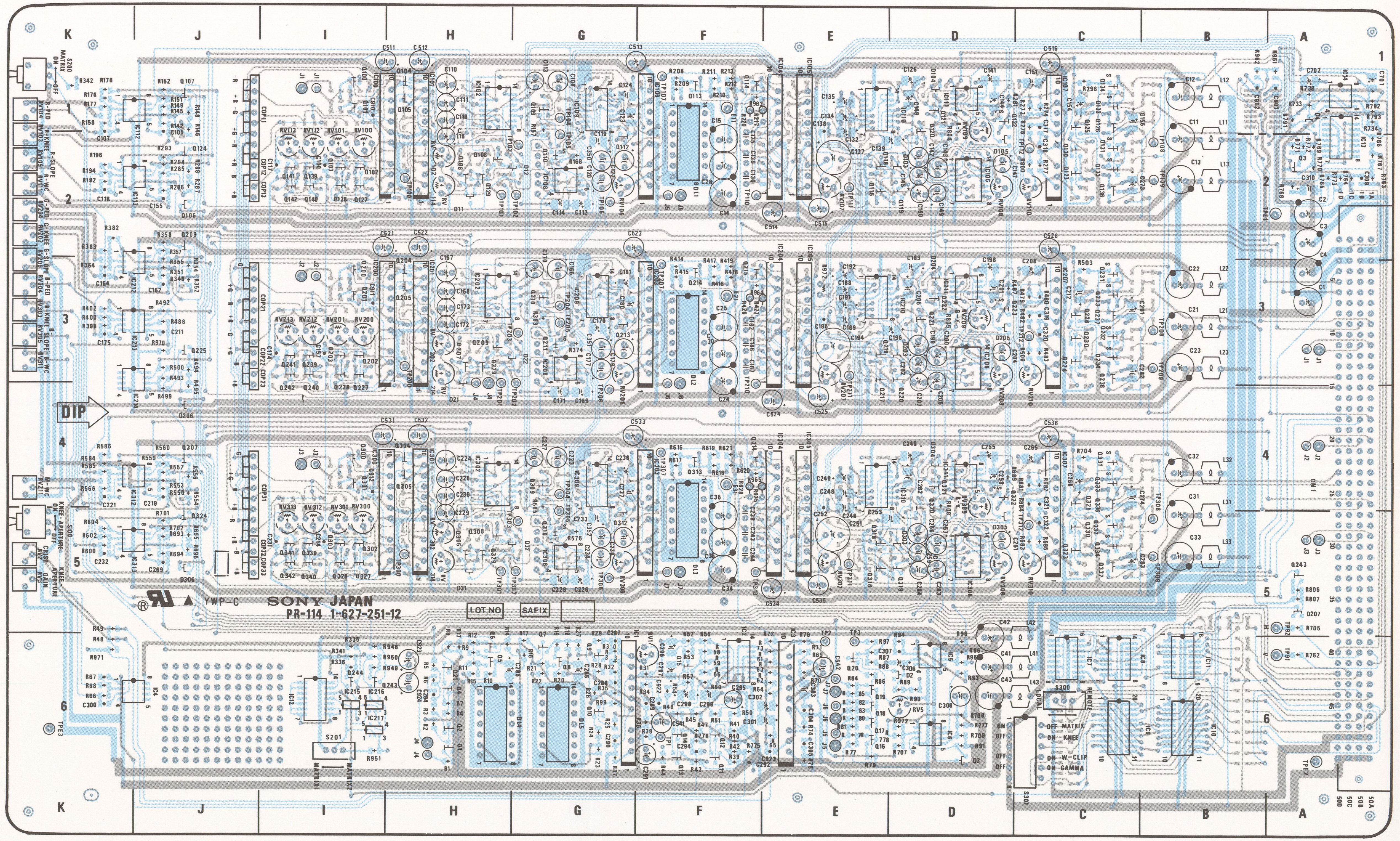
1-627-251-11 COMPONENT SIDE

PR-114 1-627-251-11

CN1	A-4	IC10	B-6	Q4	H-6	Q141	I-2	Q313	F-4	RV211	K-4	TP211	E-3
		IC11	B-6	Q5	H-6	Q142	I-2	Q314	F-4	RV212	I-3	TP212	C-3
D2	D-6	IC12	I-6	Q6	H-6	Q200	I-3	Q315	E-4	RV300	I-5	TP300	H-5
D3	D-6	IC13	A-2	Q7	G-6	Q201	I-3	Q316	E-5	RV301	I-5	TP301	H-5
D4	A-1	IC14	A-1	Q8	G-6	Q202	I-3	Q317	E-4	RV302	H-5	TP302	G-5
D11	H-2	IC100	H-1	Q9	G-6	Q203	I-3	Q318	E-5	RV303	K-3	TP303	G-5
D12	G-2	IC101	H-1	Q10	G-6	Q204	H-3	Q320	D-4	RV304	K-3	TP304	G-4
D21	H-4	IC102	H-1	Q11	F-6	Q205	H-3	Q321	D-4	RV305	K-3	TP305	G-5
D22	G-3	IC103	F-1	Q12	F-6	Q207	H-3	Q322	D-4	RV306	G-5	TP306	G-5
D31	H-5	IC104	E-1	Q13	F-6	Q208	J-2	Q323	C-5	RV307	E-5	TP307	F-4
D32	G-5	IC105	E-1	Q14	F-6	Q209	H-3	Q324	J-5	RV308	D-5	TP308	B-5
D100	G-1	IC106	D-2	Q15	F-6	Q210	G-3	Q325	C-4	RV308	K-3	TP309	B-5
D101	G-1	IC107	C-2	Q16	E-6	Q211	G-3	Q327	I-5	RV309	D-4	TP310	F-5
D102	G-1	IC108	G-2	Q17	E-6	Q212	G-3	Q328	I-5	RV310	C-5	TP311	E-5
D103	D-2	IC109	G-1	Q18	E-6	Q213	G-3	Q329	H-5	RV311	K-3	TP312	C-5
D104	D-1	IC110	E-1	Q19	E-6	Q214	F-3	Q330	C-5	RV312	I-5		
D105	D-2	IC111	D-1	Q20	E-6	Q215	F-3	Q331	C-4	RV313	I-5	TPE1	A-2
D106	J-2	IC112	J-1	Q21	H-6	Q217	E-3	Q332	C-5			TPE2	A-6
D200	G-3	IC113	J-2	Q100	I-1	Q218	E-3	Q333	C-4	S100	K-5	TPE3	K-6
D201	G-3	IC126	I-6	Q101	I-1	Q219	E-3	Q334	C-5	S200	K-1		
D203	D-3	IC200	H-3	Q103	I-2	Q220	D-3	Q336	C-4	S201	I-6		
D204	D-3	IC201	H-3	Q104	H-1	Q221	D-3	Q337	C-5	S300	C-6		
D206	J-4	IC202	H-3	Q105	H-1	Q222	D-3	Q339	I-5	S301	C-6		
D207	A-5	IC203	F-3	Q106	H-2	Q223	D-3	Q341	I-5				
D300	G-4	IC204	E-3	Q107	J-1	Q224	C-3	Q342	I-5	TH200	E-3		
D301	G-4	IC205	E-3	Q108	H-2	Q225	J-3						
D302	G-4	IC206	D-3	Q109	G-1	Q226	C-3	RV1	F-6	TP1	F-6		
D303	D-5	IC207	C-3	Q110	G-2	Q227	I-3	RV2	K-5	TP2	E-6		
D304	D-4	IC208	G-3	Q111	G-2	Q228	I-3	RV3	K-5	TP3	E-6		
D305	D-5	IC210	E-3	Q112	G-2	Q229	H-3	RV11	K-2	TP91	A-6		
D306	J-5	IC211	D-3	Q113	F-1	Q230	C-3	RV100	I-2	TP92	A-5		
D307	J-1	IC212	J-3	Q114	F-1	Q231	C-3	RV101	I-2	TP100	H-2		
D308	J-3	IC213	J-3	Q115	E-1	Q232	C-3	RV102	H-2	TP101	H-2		
D309	J-4	IC214	J-3	Q116	E-2	Q233	C-3	RV103	K-2	TP102	G-2		
D319	D-5	IC215	I-6	Q117	E-1	Q234	C-3	RV104	K-1	TP103	G-2		
		IC217	I-6	Q118	E-2	Q237	C-3	RV105	K-2	TP104	G-1		
DL1	F-2	IC300	H-4	Q119	D-2	Q238	C-3	RV106	G-2	TP105	G-2		
DL2	F-3	IC301	H-4	Q120	D-1	Q239	I-3	RV107	E-2	TP106	G-2		
DL3	F-5	IC302	H-4	Q121	D-1	Q240	I-3	RV108	D-2	TP107	F-1		
DL4	H-6	IC303	F-4	Q122	D-1	Q240	I-5	RV109	D-1	TP108	B-2		
DL5	G-6	IC304	E-4	Q123	C-2	Q241	I-3	RV110	C-2	TP109	B-2		
		IC305	E-4	Q124	J-2	Q242	I-3	RV111	K-2	TP110	F-2		
E11	F-1	IC306	D-5	Q125	C-1	Q243	A-5	RV112	I-2	TP111	E-2		
E21	F-3	IC307	C-4	Q126	C-1	Q244	I-6	RV113	I-2	TP112	C-2		
E31	F-4	IC308	G-5	Q127	I-2	Q300	I-4	RV200	I-3	TP200	H-3		
		IC309	G-4	Q128	I-2	Q301	I-4	RV201	I-3	TP201	H-3		
IC1	G-6	IC310	E-4	Q129	H-2	Q302	I-5	RV202	H-3	TP202	G-3		
IC2	F-6	IC311	D-4	Q130	C-2	Q303	I-5	RV203	K-2	TP203	G-3		
IC3	E-6	IC312	J-4	Q131	C-2	Q304	H-4	RV204	K-2	TP204	G-3		
IC4	J-6	IC313	J-5	Q132	C-1	Q305	H-4	RV205	K-3	TP205	G-3		
IC5	D-6	IC401	B-1	Q133	C-2	Q306	H-5	RV206	G-3	TP206	G-4		
IC6	D-6			Q134	C-1	Q307	J-4	RV207	E-3	TP207	F-3		
IC7	C-6	Q1	H-6	Q136	C-2	Q308	H-5	RV208	D-3	TP208	B-3		
IC8	C-6	Q2	H-6	Q139	I-2	Q309	G-4	RV209	D-3	TP209	B-3		
IC9	C-6	Q3	A-2	Q140	I-2	Q311	G-5	RV210	C-3	TP210	F-3		

PR-114 BOARD

Serial No. 10201 – 10310

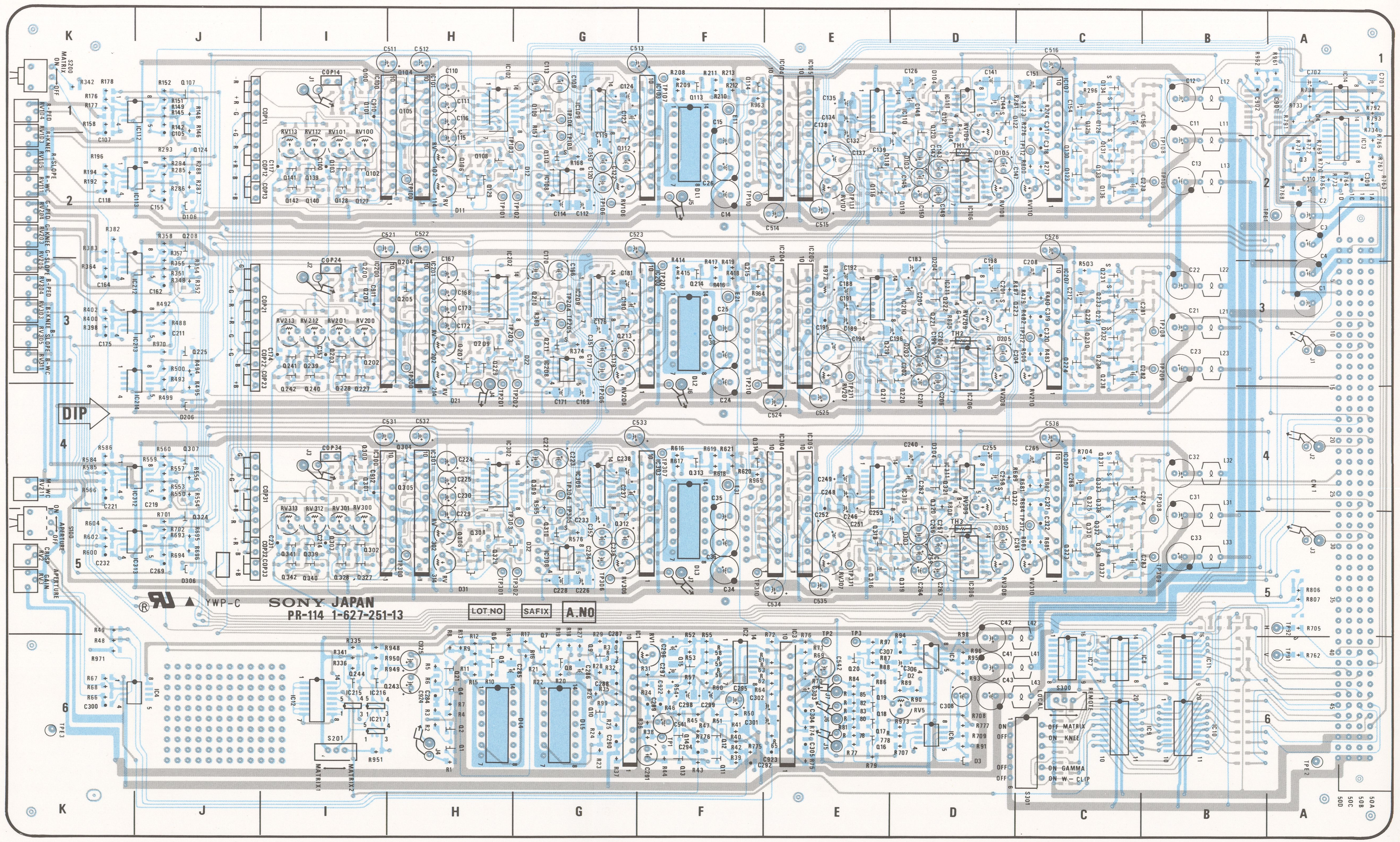


1-627-251-12 COMPONENT SIDE

PR-114 1-627-251-12

CN1	A-4	IC3	E-5	IC312	J-4	Q130	C-2	Q303	I-5	RV113	I-2	TP111	E-2
		IC4	J-6	IC313	J-5	Q131	C-2	Q304	H-4	RV114	H-2	TP112	C-2
COP11	I-1	IC5	D-6	IC401	A-1	Q132	C-1	Q305	H-4	RV200	I-3	TP200	H-3
COP12	I-2	IC6	D-6			Q133	C-2	Q306	H-5	RV201	I-3	TP201	H-4
COP13	I-2	IC7	C-6	Q1	H-6	Q134	C-1	Q307	J-4	RV202	H-3	TP202	G-4
COP21	I-3	IC8	B-6	Q2	H-6	Q136	C-2	Q308	H-5	RV203	K-2	TP203	G-3
COP22	I-3	IC9	B-6	Q3	A-2	Q139	I-2	Q309	G-4	RV204	K-2	TP204	G-3
COP23	I-3	IC10	B-6	Q4	H-6	Q140	I-2	Q310	G-5	RV205	K-3	TP205	G-3
COP31	I-4	IC11	B-6	Q5	H-6	Q141	I-2	Q311	G-5	RV206	G-3	TP206	G-4
COP32	I-5	IC12	I-6	Q6	H-6	Q142	I-2	Q312	G-5	RV207	E-4	TP207	F-3
		IC13	A-2	Q7	G-5	Q200	I-3	Q313	F-4	RV208	D-4	TP208	B-3
DL1	F-2	IC14	A-1	Q8	G-6	Q201	I-3	Q314	F-4	RV209	D-3	TP209	B-3
DL2	F-3	IC100	I-1	Q9	G-6	Q202	I-3	Q315	E-4	RV210	C-4	TP210	F-3
DL3	F-5	IC101	H-1	Q10	G-6	Q203	I-3	Q316	E-5	RV211	K-4	TP211	E-3
DL4	G-6	IC102	H-1	Q11	F-6	Q204	H-3	Q317	E-4	RV212	I-3	TP212	C-3
DL5	G-6	IC103	F-1	Q12	F-6	Q205	H-3	Q318	E-5	RV213	I-3	TP300	H-5
		IC104	E-1	Q13	F-6	Q207	H-3	Q319	D-5	RV214	H-4	TP301	H-5
D2	D-6	IC105	E-1	Q14	F-6	Q208	J-2	Q320	D-4	RV300	I-5	TP302	G-5
D3	D-6	IC106	D-2	Q15	F-6	Q209	H-3	Q321	D-4	RV301	I-5	TP303	G-5
D4	A-1	IC107	C-1	Q16	E-6	Q210	G-3	Q322	D-4	RV302	H-5	TP304	G-4
D5	F-6	IC108	G-2	Q17	E-6	Q211	G-3	Q323	C-5	RV303	K-3	TP305	G-5
D11	H-2	IC109	G-1	Q18	E-6	Q212	G-3	Q324	J-5	RV304	K-3	TP306	G-5
D12	H-2	IC110	D-1	Q19	E-6	Q213	G-3	Q325	C-4	RV305	K-3	TP307	F-4
D21	H-3	IC111	D-1	Q20	E-6	Q214	F-3	Q327	I-5	RV306	G-5	TP308	B-5
D22	H-3	IC112	J-2	Q21	H-6	Q215	F-3	Q328	I-5	RV307	E-5	TP309	B-5
D31	H-5	IC113	J-2	Q100	H-6	Q216	E-2	Q329	H-5	RV308	D-5	TP301	F-5
D32	H-5	IC200	I-3	Q101	I-1	Q217	E-4	Q330	C-5	RV309	D-4	TP311	E-5
D101	G-1	IC201	H-3	Q102	I-2	Q218	E-3	C331	C-4	RV310	C-5	TP312	C-5
D102	G-2	IC202	H-3	Q103	I-2	Q219	E-3	Q332	C-5	RV311	K-3		
D103	D-2	IC203	F-3	Q104	H-1	Q220	D-4	Q333	C-4	RV312	I-5	TPE1	A-2
D104	D-1	IC204	E-2	Q105	H-1	Q221	D-3	Q334	C-5	RV313	I-5	TPE2	A-6
D105	D-2	IC205	E-2	Q106	H-2	Q222	D-3	Q336	C-4	RV314	H-5	TPE3	K-6
D106	J-2	IC206	D-3	Q107	J-1	Q223	D-3	Q337	C-5				
D201	G-3	IC207	C-3	Q108	H-2	Q224	C-3	Q339	I-5	S100	K-5		
D202	G-3	IC208	G-3	Q109	G-1	Q225	J-3	Q340	I-5	S200	K-1		
D203	D-3	IC209	G-3	Q110	G-2	Q226	C-3	Q341	I-5	S201	I-6		
D204	D-3	IC210	D-3	Q111	G-2	Q227	I-4	Q342	I-5	S300	C-6		
D205	D-3	IC211	D-3	Q112	G-2	Q228	I-4			S301	C-6		
D206	J-4	IC212	J-3	Q113	F-1	Q229	H-3	RV1	F-6				
D301	G-4	IC213	J-3	Q114	F-1	Q230	C-3	RV2	K-5	TP1	F-6		
D302	G-5	IC214	J-4	Q115	E-1	Q231	C-3	RV3	K-5	TP2	E-6		
D303	D-5	IC215	I-6	Q116	E-2	Q232	C-1	RV5	D-6	TP3	E-6		
D304	D-4	IC217	I-6	Q117	E-1	Q233	C-3	RV100	I-2	TP91	A-6		
D305	D-5	IC300	I-4	Q118	E-2	Q234	C-3	RV101	I-2	TP92	A-5		
D306	J-5	IC301	H-4	Q119	D-2	Q237	C-3	RV102	H-2	TP100	H-2		
D307	J-2	IC302	H-4	Q120	D-1	Q238	C-3	RV103	K-2	TP101	H-2		
D308	J-3	IC303	F-4	Q121	D-1	Q239	I-3	RV104	K-1	TP102	G-2		
D309	J-4	IC304	E-4	Q122	D-1	Q240	I-4	RV105	K-2	TP103	G-2		
		IC305	E-4	Q123	C-2	Q241	I-3	RV106	G-2	TP104	G-1		
E11	F-1	IC306	D-5	Q124	J-2	Q242	I-4	RV107	E-2	TP105	G-2		
E21	F-3	IC307	C-4	Q125	C-1	Q243	A-5	RV108	D-2	TP106	G-2		
E31	F-4	IC308	G-5	Q126	C-1	Q244	I-6	RV109	D-1	TP107	F-1		
		IC309	G-4	Q127	I-2	Q300	I-4	RV110	C-2	TP108	B-2		
IC1	F-5	IC310	D-4	Q128	I-2	Q301	I-4	RV111	K-2	TP109	B-2		
IC2	F-5	IC311	D-4	Q129	H-2	Q302	I-5	RV112	I-2	TP110	F-2		

PR-114 BOARD Serial No. 10401 –

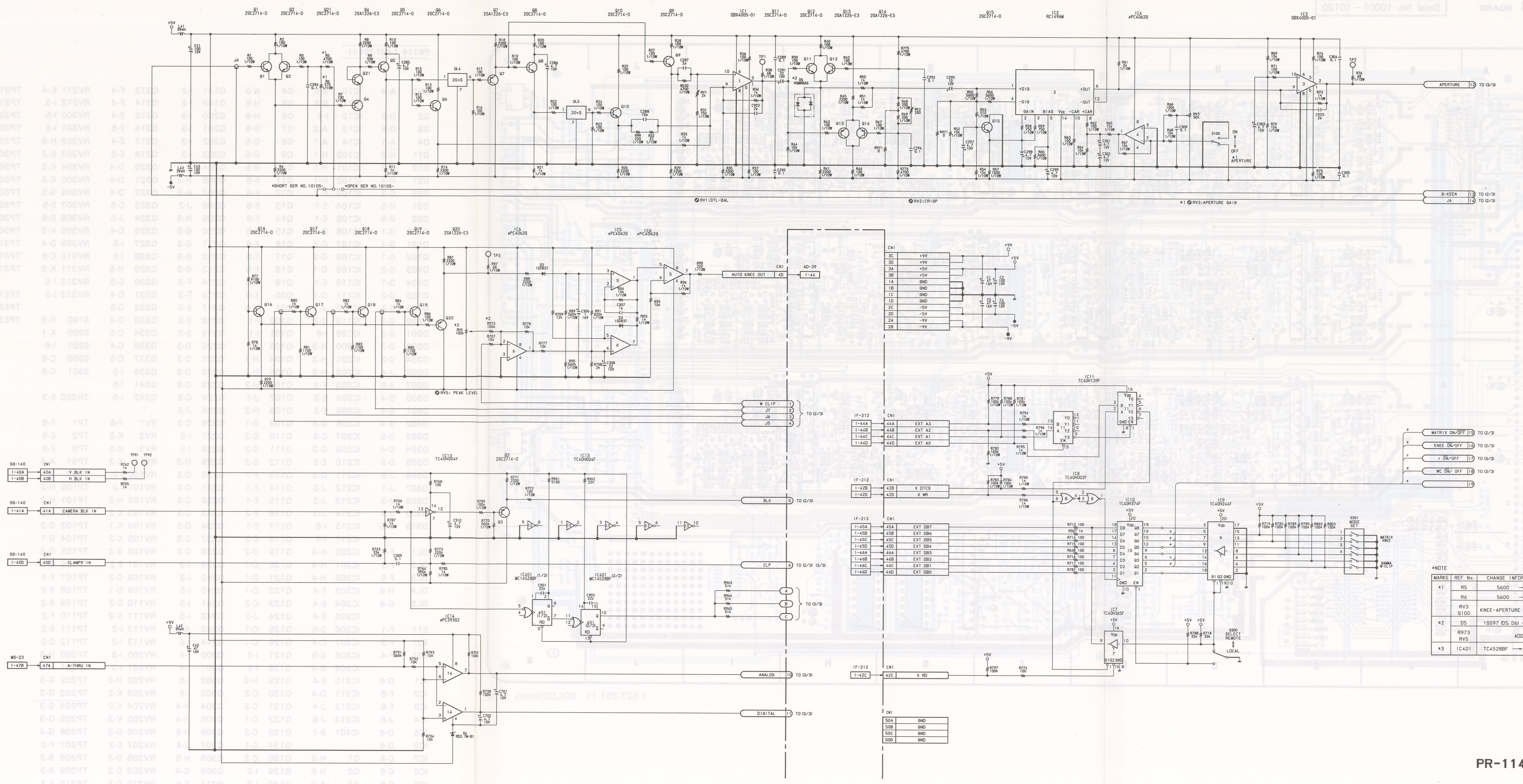


1-627-251-13 COMPONENT SIDE

PR-114 1-627-251-13

CN1	A-4
COP11	I-1
COP12	I-2
COP13	I-2
COP21	I-3
COP22	I-3
COP23	I-3
COP31	I-4
COP32	I-5
DL1	F-2
DL2	F-3
DL3	F-5
DL4	G-6
DL5	G-6
D2	D-6
D3	D-6
D4	A-1
D5	F-6
D11	H-2
D12	H-2
D21	H-3
D22	H-3
D31	H-5
D32	H-5
D101	G-1
D102	G-2
D103	D-2
D104	D-1
D105	D-2
D106	J-2
D201	G-3
D202	G-3
D203	D-3
D204	D-3
D205	D-3
D206	J-4
D301	G-4
D302	G-5
D303	D-5
D304	D-4
D305	D-5
D306	J-5
D307	J-2
D308	J-3
D309	J-4
E11	F-1
E21	F-3
E31	F-4
IC1	F-5
IC2	F-5
IC3	E-5
IC4	J-6
IC5	D-6
IC6	D-6
IC7	C-6
IC8	B-6
IC9	B-6
IC10	B-6
IC11	B-6
IC12	I-6
IC13	A-2
IC14	A-1
IC100	I-1
IC101	H-1
IC102	H-1
IC103	F-1
IC104	E-1
IC105	E-1
IC106	D-2
IC107	C-1
IC108	G-2
IC109	G-1
IC110	D-1
IC111	D-1
IC112	J-2
IC113	J-2
IC200	I-3
IC201	H-3
IC202	H-3
IC203	F-3
IC204	E-2
IC205	E-2
IC206	D-3
IC207	C-3
IC208	G-3
IC209	G-3
IC210	D-3
IC211	D-3
IC212	J-3
IC213	J-3
IC214	J-4
IC215	I-6
IC217	I-6
IC300	I-4
IC301	H-4
IC302	H-4
IC303	F-4
IC304	E-4
IC305	E-4
IC306	D-5
IC307	C-4
IC308	G-5
IC309	G-4
IC310	D-4
IC311	D-4
IC312	J-4
IC313	J-5
IC401	A-1
Q1	H-6
Q2	H-6
Q3	A-2
Q4	H-6
Q5	H-6
Q6	H-6
Q7	G-5
Q8	G-6
Q9	G-6
Q10	G-6
Q11	F-6
Q12	F-6
Q13	F-6
Q14	F-6
Q15	F-6
Q16	E-6
Q17	E-6
Q18	E-6
Q19	E-6
Q20	E-6
Q21	H-6
Q100	H-6
Q101	I-1
Q102	I-2
Q103	I-2
Q104	H-1
Q105	H-1
Q106	H-2
Q107	J-1
Q108	H-2
Q109	G-1
Q110	G-2
Q111	G-2
Q112	G-2
Q113	F-1
Q114	F-1
Q115	E-1
Q116	E-2
Q117	E-1
Q118	E-2
Q119	D-2
Q120	D-1
Q121	D-1
Q122	D-1
Q123	C-2
Q124	J-2
Q125	C-1
Q126	C-1
Q127	I-2
Q128	I-2
Q129	H-2
Q130	C-2
Q131	C-2
Q132	C-1
Q133	C-2
Q134	C-1
Q136	C-2
Q139	I-2
Q140	I-2
Q141	I-2
Q142	I-2
Q200	I-3
Q201	I-3
Q202	I-3
Q203	I-3
Q204	H-3
Q205	H-3
Q207	H-3
Q208	J-2
Q209	H-3
Q210	G-3
Q211	G-3
Q212	G-3
Q213	G-3
Q214	F-3
Q215	F-3
Q216	E-2
Q217	E-4
Q218	E-3
Q219	E-3
Q220	D-4
Q221	D-3
Q222	D-3
Q223	D-3
Q224	C-3
Q225	J-3
Q226	C-3
Q227	I-4
Q228	I-4
Q229	H-3
Q230	C-3
Q231	C-3
Q232	C-1
Q233	C-3
Q234	C-3
Q237	C-3
Q238	C-3
Q239	I-3
Q240	I-4
Q241	I-3
Q242	I-4
Q243	A-5
Q244	I-6
Q300	I-4
Q301	I-4
Q302	I-5
Q303	I-5
Q304	H-4
Q305	H-4
Q306	H-5
Q307	J-4
Q308	H-5
Q309	G-4
Q310	G-5
Q311	G-5
Q312	G-5
Q313	F-4
Q314	F-4
Q315	E-4
Q316	E-5
Q317	E-4
Q318	E-5
Q319	D-5
Q320	D-4
Q321	D-4
Q322	D-4
Q323	C-5
Q324	J-5
Q325	C-4
Q327	I-5
Q328	I-5
Q329	H-5
Q330	C-5
C331	C-4
Q332	C-5
Q333	C-4
Q334	C-5
Q336	C-4
Q337	C-5
Q339	I-5
Q340	I-5
Q341	I-5
Q342	I-5
RV1	F-6
RV2	K-5
RV3	K-5
RV5	D-6
RV100	I-2
RV101	I-2
RV102	H-2
RV103	K-2
RV104	K-1
RV105	K-2
RV106	G-2
RV107	E-2
RV108	D-2
RV109	D-1
RV110	C-2
RV111	K-2
RV112	I-2
RV113	I-2
RV114	H-2
RV200	I-3
RV201	I-3
RV202	H-3
RV203	K-2
RV204	K-2
RV205	K-3
RV206	G-3
RV207	E-4
RV208	D-4
RV209	D-3
RV210	C-4
RV211	K-4
RV212	I-3
RV213	I-3
RV214	H-4
RV300	I-5
RV301	I-5
RV302	H-5
RV303	K-3
RV304	K-3
RV305	K-3
RV306	G-5
RV307	E-5
RV308	D-5
RV309	D-4
RV310	C-5
RV311	K-3
RV312	I-5
RV313	I-5
RV314	H-5
S100	K-5
S200	K-1
S201	I-6
S300	C-6
S301	C-6
TP1	F-6
TP2	E-6
TP3	E-6
TP91	A-6
TP92	A-5
TP100	H-2
TP101	H-2
TP102	G-2
TP103	G-2
TP104	G-1
TP105	G-2
TP106	G-2
TP107	F-1
TP108	B-2
TP109	B-2
TP110	F-2
TP111	E-2
TP112	C-2
TP200	H-3
TP201	H-4
TP202	G-4
TP203	G-3
TP204	G-3
TP205	G-3
TP206	G-4
TP207	F-3
TP208	B-3
TP209	B-3
TP210	F-3
TP211	E-3
TP212	C-3
TP300	H-5
TP301	H-5
TP302	G-5
TP303	G-5
TP304	G-4
TP305	G-5
TP306	G-5
TP307	F-4
TP308	B-5
TP309	B-5
TP301	F-5
TP311	E-5
TP312	C-5
TPE1	A-2
TPE2	A-6
TPE3	K-6

PR-114 (1/3) BOARD



Q1 2SC2714-O
Q2 2SC2714-O
Q21 2SC2714-O
Q4 2SA1226-E3
Q5 2SC2714-O
Q6 2SC2714-O
Q7 2SA1226-E3
Q8 2SC2714-O
Q10 2SC2714-O
Q9 2SC2714-O
IC1 SBX4005-01
Q11 2SC2714-O
Q12 2SC2714-O
Q13 2SA1226-E3
Q14 2SA1226-E3
Q15 2SC2714-O
IC2 RC1496M
IC4 μPC4062G
IC3 SBX4005-01
+5V
-5V
DL4
DL5
TP1
TP2
S100
ON
OFF
*1 APERTURE
*SHORT SER NO. 10105-
*OPEN SER NO. 10105-
RV1:DTL-BAL
RV2:CRISP
*1 RV3:APERTURE GAIN
APERTURE
D-KEEN
J4
TO (3/3)
TO (2/3)
Q16 2SC2714-O
Q17 2SC2714-O
Q18 2SC2714-O
Q19 2SC2714-O
Q20 2SA1226-E3
IC6 μPC4062G
IC5 μPC4062G
IC6 μPC4062G
TP3
RV5: PEAK LEVEL
AUTO KNEE OUT
CN1
AD-39
1-44
+9V
+5V
GND
-5V
-9V
W CLIP
J7
J6
J5
IF-212
1-44A
1-44B
1-44C
1-44D
EXT A3
EXT A2
EXT A1
EXT A0
IC11 TC40H139F
MATRIX ON/OFF
KNEE ON/OFF
r ON/OFF
WC ON/OFF
SG-140
1-40A
1-40B
V BLK IN
H BLK IN
TP91
TP92
1-41A
CAMERA BLK IN
1-40D
CLAMPS IN
MS-23
1-47B
A-THRU IN
IC13 TC40H004F
Q3 2SC2714-O
IC12 TC40H004F
BLK
CLP
IC401 MC14528BF
IC14 μPC39362
1-42B
1-42D
X DTCS
X WR
IC8 TC40H002F
IC10 TC40H374F
IC9 TC40H244F
S301 MODE SET
MATRIX
KNEE
GAMMA
W-CLIP
1-45A
1-45B
1-45C
1-45D
1-46A
1-46B
1-46C
1-46D
EXT DB7
EXT DB6
EXT DB5
EXT DB4
EXT DB3
EXT DB2
EXT DB1
EXT DB0
IC7 TC40H365F
S300 SELECT REMOTE LOCAL
ANALOG
DIGITAL
1-42C
X RD
50A
50B
50C
50D
GND

*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	R5	5600 → 4700	10105-
	R6	5600 → 270	
	RV3 S100	KNEE-APERTURE → APERTURE	
*2	D5	1SS97 (D5, D6) → HSM88AS	10201-
	R973 RV5	ADD	
*3	IC401	TC4528BF → MC14528BF	10401-

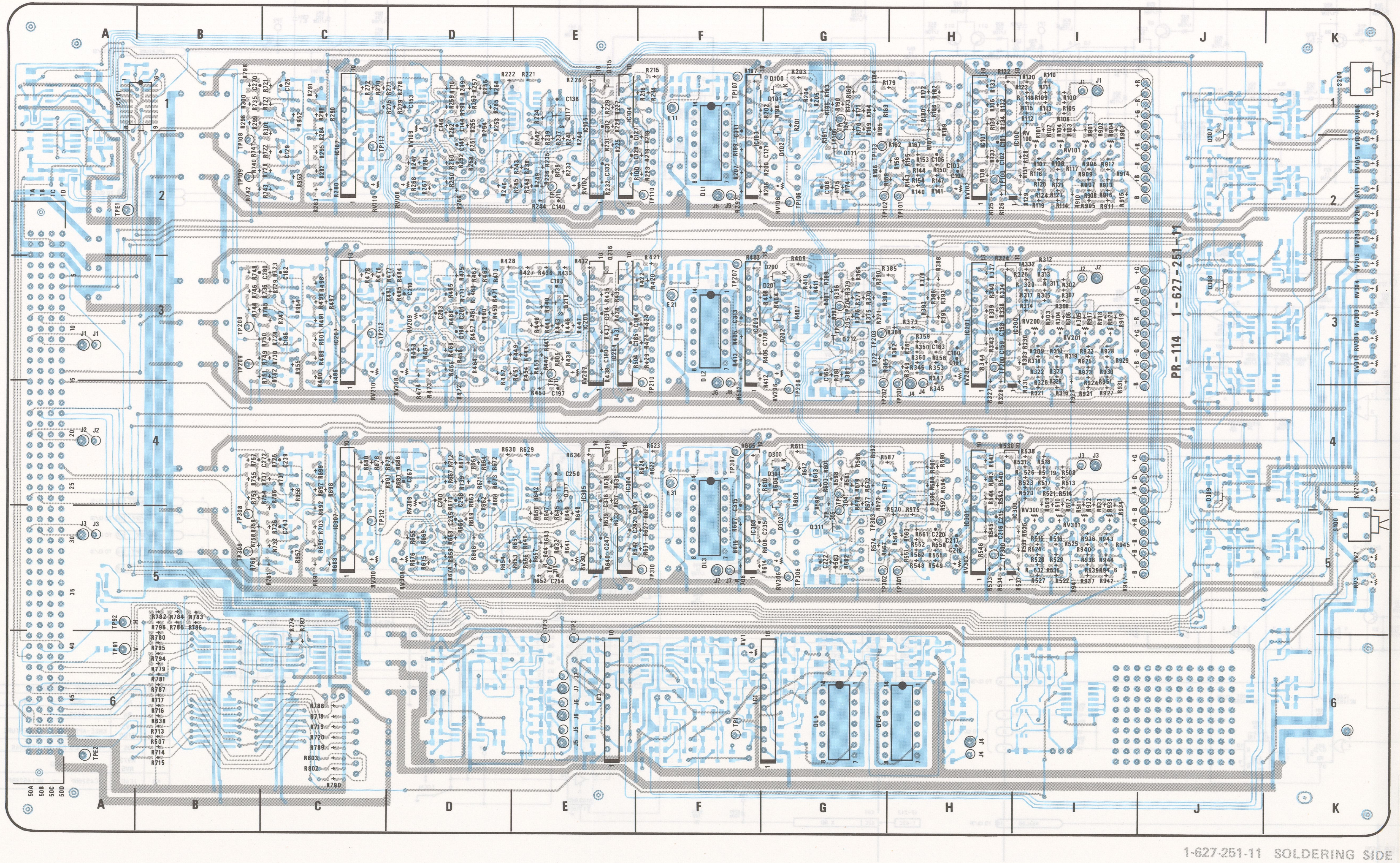
PR-114 (1/3) BOARD

1
2
3
4
5
6

A B C D E F G H I

PR-114 BOARD

Serial No. 10001 – 10120



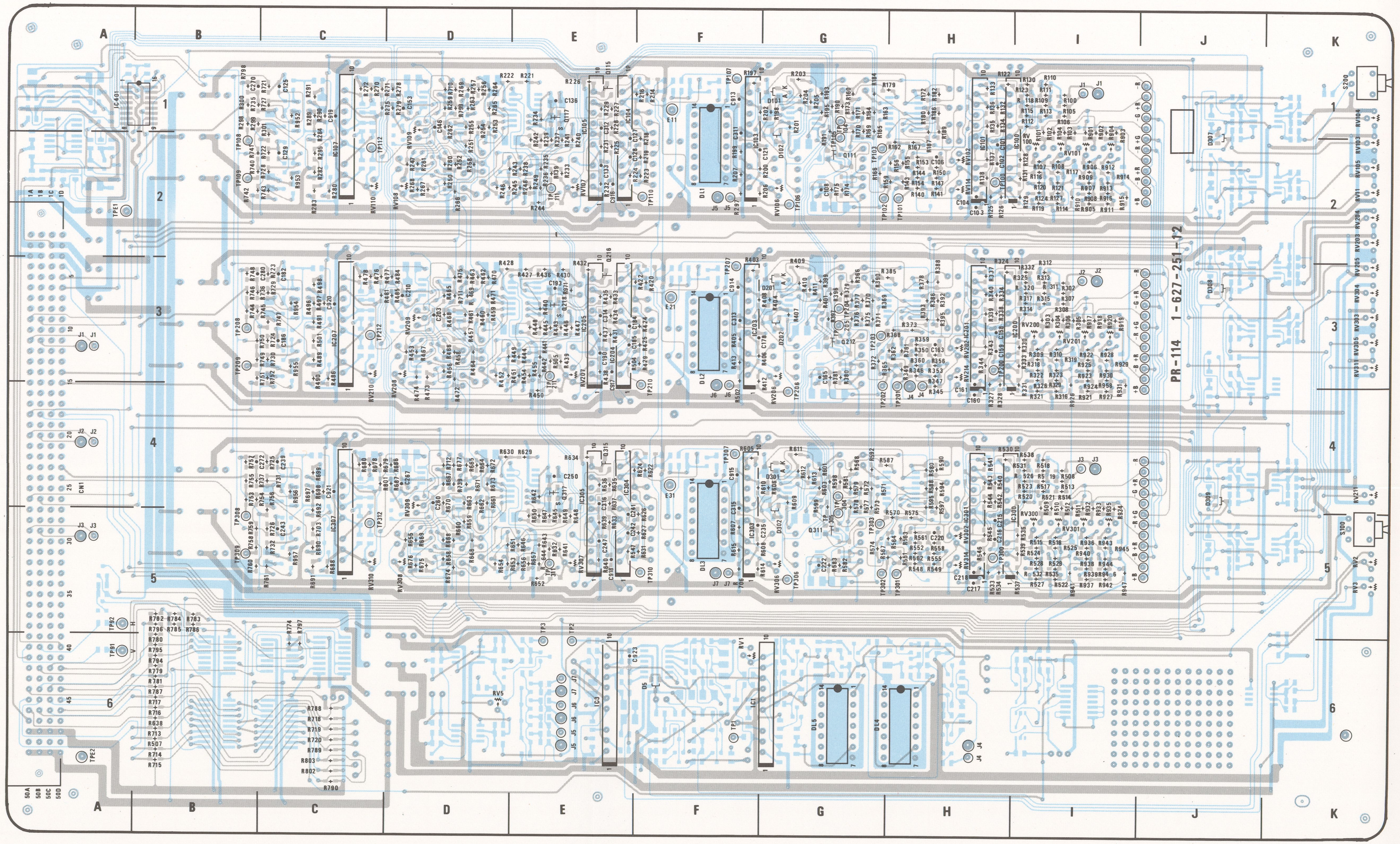
1-627-251-11 SOLDERING SIDE

PR-114 1-627-251-11

CN1	A-4	IC10	B-6	Q4	H-6	Q141	I-2	Q313	F-4	RV211	K-4	TP211	E-3
		IC11	B-6	Q5	H-6	Q142	I-2	Q314	F-4	RV212	I-3	TP212	C-3
D2	D-6	IC12	I-6	Q6	H-6	Q200	I-3	Q315	E-4	RV300	I-5	TP300	H-5
D3	D-6	IC13	A-2	Q7	G-6	Q201	I-3	Q316	E-5	RV301	I-5	TP301	H-5
D4	A-1	IC14	A-1	Q8	G-6	Q202	I-3	Q317	E-4	RV302	H-5	TP302	G-5
D11	H-2	IC100	H-1	Q9	G-6	Q203	I-3	Q318	E-5	RV303	K-3	TP303	G-5
D12	G-2	IC101	H-1	Q10	G-6	Q204	H-3	Q320	D-4	RV304	K-3	TP304	G-4
D21	H-4	IC102	H-1	Q11	F-6	Q205	H-3	Q321	D-4	RV305	K-3	TP305	G-5
D22	G-3	IC103	F-1	Q12	F-6	Q207	H-3	Q322	D-4	RV306	G-5	TP306	G-5
D31	H-5	IC104	E-1	Q13	F-6	Q208	J-2	Q323	C-5	RV307	E-5	TP307	F-4
D32	G-5	IC105	E-1	Q14	F-6	Q209	H-3	Q324	J-5	RV308	D-5	TP308	B-5
D100	G-1	IC106	D-2	Q15	F-6	Q210	G-3	Q325	C-4	RV308	K-3	TP309	B-5
D101	G-1	IC107	C-2	Q16	E-6	Q211	G-3	Q327	I-5	RV309	D-4	TP310	F-5
D102	G-1	IC108	G-2	Q17	E-6	Q212	G-3	Q328	I-5	RV310	C-5	TP311	E-5
D103	D-2	IC109	G-1	Q18	E-6	Q213	G-3	Q329	H-5	RV311	K-3	TP312	C-5
D104	D-1	IC110	E-1	Q19	E-6	Q214	F-3	Q330	C-5	RV312	I-5		
D105	D-2	IC111	D-1	Q20	E-6	Q215	F-3	Q331	C-4	RV313	I-5	TPE1	A-2
D106	J-2	IC112	J-1	Q21	H-6	Q217	E-3	Q332	C-5			TPE2	A-6
D200	G-3	IC113	J-2	Q100	I-1	Q218	E-3	Q333	C-4	S100	K-5	TPE3	K-6
D201	G-3	IC126	I-6	Q101	I-1	Q219	E-3	Q334	C-5	S200	K-1		
D203	D-3	IC200	H-3	Q103	I-2	Q220	D-3	Q336	C-4	S201	I-6		
D204	D-3	IC201	H-3	Q104	H-1	Q221	D-3	Q337	C-5	S300	C-6		
D206	J-4	IC202	H-3	Q105	H-1	Q222	D-3	Q339	I-5	S301	C-6		
D207	A-5	IC203	F-3	Q106	H-2	Q223	D-3	Q341	I-5				
D300	G-4	IC204	E-3	Q107	J-1	Q224	C-3	Q342	I-5	TH200	E-3		
D301	G-4	IC205	E-3	Q108	H-2	Q225	J-3						
D302	G-4	IC206	D-3	Q109	G-1	Q226	C-3	RV1	F-6	TP1	F-6		
D303	D-5	IC207	C-3	Q110	G-2	Q227	I-3	RV2	K-5	TP2	E-6		
D304	D-4	IC208	G-3	Q111	G-2	Q228	I-3	RV3	K-5	TP3	E-6		
D305	D-5	IC210	E-3	Q112	G-2	Q229	H-3	RV11	K-2	TP91	A-6		
D306	J-5	IC211	D-3	Q113	F-1	Q230	C-3	RV100	I-2	TP92	A-5		
D307	J-1	IC212	J-3	Q114	F-1	Q231	C-3	RV101	I-2	TP100	H-2		
D308	J-3	IC213	J-3	Q115	E-1	Q232	C-3	RV102	H-2	TP101	H-2		
D309	J-4	IC214	J-3	Q116	E-2	Q233	C-3	RV103	K-2	TP102	G-2		
D319	D-5	IC215	I-6	Q117	E-1	Q234	C-3	RV104	K-1	TP103	G-2		
		IC217	I-6	Q118	E-2	Q237	C-3	RV105	K-2	TP104	G-1		
DL1	F-2	IC300	H-4	Q119	D-2	Q238	C-3	RV106	G-2	TP105	G-2		
DL2	F-3	IC301	H-4	Q120	D-1	Q239	I-3	RV107	E-2	TP106	G-2		
DL3	F-5	IC302	H-4	Q121	D-1	Q240	I-3	RV108	D-2	TP107	F-1		
DL4	H-6	IC303	F-4	Q122	D-1	Q240	I-5	RV109	D-1	TP108	B-2		
DL5	G-6	IC304	E-4	Q123	C-2	Q241	I-3	RV110	C-2	TP109	B-2		
		IC305	E-4	Q124	J-2	Q242	I-3	RV111	K-2	TP110	F-2		
E11	F-1	IC306	D-5	Q125	C-1	Q243	A-5	RV112	I-2	TP111	E-2		
E21	F-3	IC307	C-4	Q126	C-1	Q244	I-6	RV113	I-2	TP112	C-2		
E31	F-4	IC308	G-5	Q127	I-2	Q300	I-4	RV200	I-3	TP200	H-3		
		IC309	G-4	Q128	I-2	Q301	I-4	RV201	I-3	TP201	H-3		
IC1	G-6	IC310	E-4	Q129	H-2	Q302	I-5	RV202	H-3	TP202	G-3		
IC2	F-6	IC311	D-4	Q130	C-2	Q303	I-5	RV203	K-2	TP203	G-3		
IC3	E-6	IC312	J-4	Q131	C-2	Q304	H-4	RV204	K-2	TP204	G-3		
IC4	J-6	IC313	J-5	Q132	C-1	Q305	H-4	RV205	K-3	TP205	G-3		
IC5	D-6	IC401	B-1	Q133	C-2	Q306	H-5	RV206	G-3	TP206	G-4		
IC6	D-6			Q134	C-1	Q307	J-4	RV207	E-3	TP207	F-3		
IC7	C-6	Q1	H-6	Q136	C-2	Q308	H-5	RV208	D-3	TP208	B-3		
IC8	C-6	Q2	H-6	Q139	I-2	Q309	G-4	RV209	D-3	TP209	B-3		
IC9	C-6	Q3	A-2	Q140	I-2	Q311	G-5	RV210	C-3	TP210	F-3		

PR-114 BOARD

Serial No. 10201 – 10310



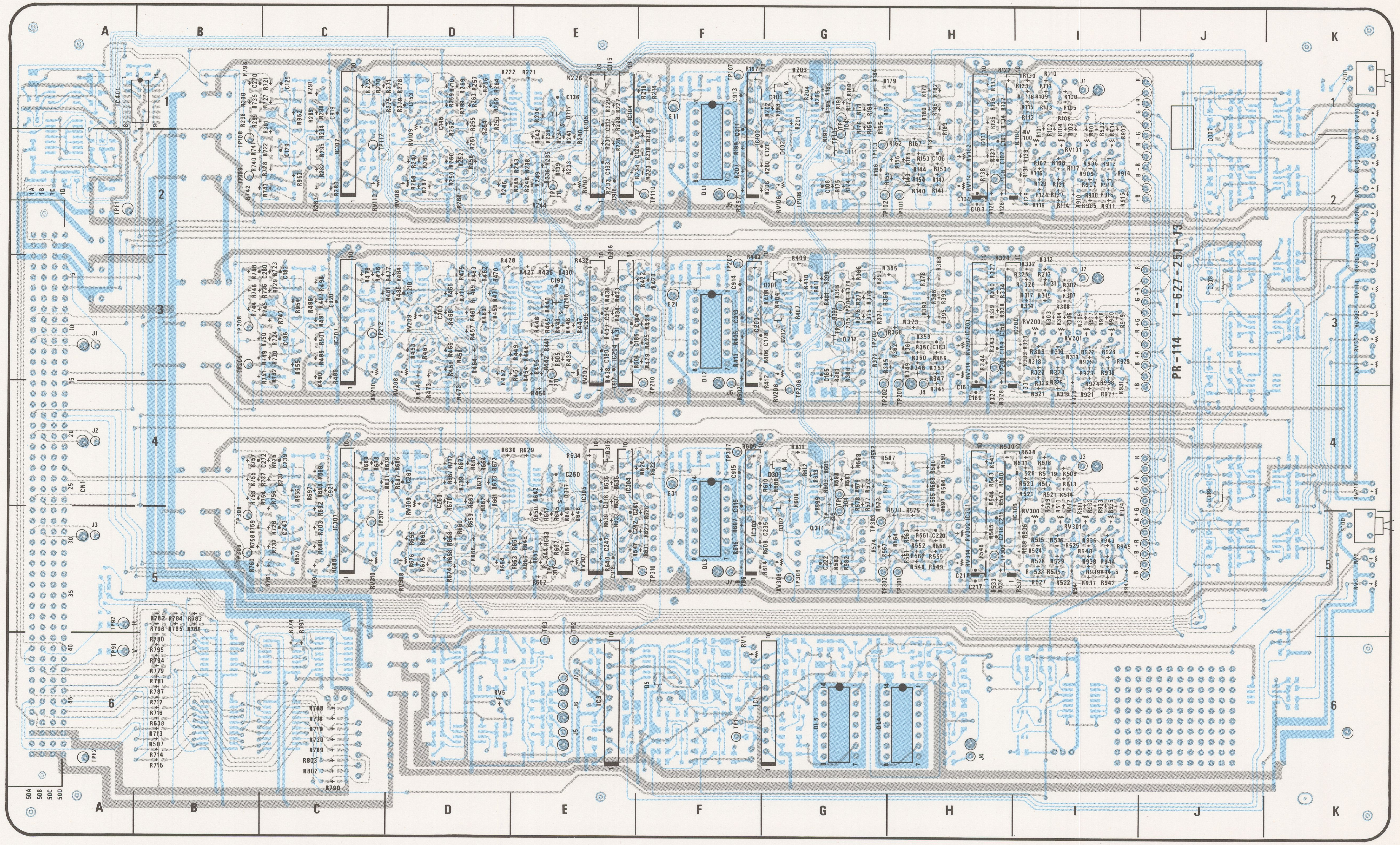
1-627-251-12 SOLDERING SIDE

PR-114 1-627-251-12

CN1	A-4	IC3	E-5	IC312	J-4	Q130	C-2	Q303	I-5	RV113	I-2	TP111	E-2
		IC4	J-6	IC313	J-5	Q131	C-2	Q304	H-4	RV114	H-2	TP112	C-2
COP11	I-1	IC5	D-6	IC401	A-1	Q132	C-1	Q305	H-4	RV200	I-3	TP200	H-3
COP12	I-2	IC6	D-6			Q133	C-2	Q306	H-5	RV201	I-3	TP201	H-4
COP13	I-2	IC7	C-6	Q1	H-6	Q134	C-1	Q307	J-4	RV202	H-3	TP202	G-4
COP21	I-3	IC8	B-6	Q2	H-6	Q136	C-2	Q308	H-5	RV203	K-2	TP203	G-3
COP22	I-3	IC9	B-6	Q3	A-2	Q139	I-2	Q309	G-4	RV204	K-2	TP204	G-3
COP23	I-3	IC10	B-6	Q4	H-6	Q140	I-2	Q310	G-5	RV205	K-3	TP205	G-3
COP31	I-4	IC11	B-6	Q5	H-6	Q141	I-2	Q311	G-5	RV206	G-3	TP206	G-4
COP32	I-5	IC12	I-6	Q6	H-6	Q142	I-2	Q312	G-5	RV207	E-4	TP207	F-3
		IC13	A-2	Q7	G-5	Q200	I-3	Q313	F-4	RV208	D-4	TP208	B-3
DL1	F-2	IC14	A-1	Q8	G-6	Q201	I-3	Q314	F-4	RV209	D-3	TP209	B-3
DL2	F-3	IC100	I-1	Q9	G-6	Q202	I-3	Q315	E-4	RV210	C-4	TP210	F-3
DL3	F-5	IC101	H-1	Q10	G-6	Q203	I-3	Q316	E-5	RV211	K-4	TP211	E-3
DL4	G-6	IC102	H-1	Q11	F-6	Q204	H-3	Q317	E-4	RV212	I-3	TP212	C-3
DL5	G-6	IC103	F-1	Q12	F-6	Q205	H-3	Q318	E-5	RV213	I-3	TP300	H-5
		IC104	E-1	Q13	F-6	Q207	H-3	Q319	D-5	RV214	H-4	TP301	H-5
D2	D-6	IC105	E-1	Q14	F-6	Q208	J-2	Q320	D-4	RV300	I-5	TP302	G-5
D3	D-6	IC106	D-2	Q15	F-6	Q209	H-3	Q321	D-4	RV301	I-5	TP303	G-5
D4	A-1	IC107	C-1	Q16	E-6	Q210	G-3	Q322	D-4	RV302	H-5	TP304	G-4
D5	F-6	IC108	G-2	Q17	E-6	Q211	G-3	Q323	C-5	RV303	K-3	TP305	G-5
D11	H-2	IC109	G-1	Q18	E-6	Q212	G-3	Q324	J-5	RV304	K-3	TP306	G-5
D12	H-2	IC110	D-1	Q19	E-6	Q213	G-3	Q325	C-4	RV305	K-3	TP307	F-4
D21	H-3	IC111	D-1	Q20	E-6	Q214	F-3	Q327	I-5	RV306	G-5	TP308	B-5
D22	H-3	IC112	J-2	Q21	H-6	Q215	F-3	Q328	I-5	RV307	E-5	TP309	B-5
D31	H-5	IC113	J-2	Q100	H-6	Q216	E-2	Q329	H-5	RV308	D-5	TP301	F-5
D32	H-5	IC200	I-3	Q101	I-1	Q217	E-4	Q330	C-5	RV309	D-4	TP311	E-5
D101	G-1	IC201	H-3	Q102	I-2	Q218	E-3	C331	C-4	RV310	C-5	TP312	C-5
D102	G-2	IC202	H-3	Q103	I-2	Q219	E-3	Q332	C-5	RV311	K-3		
D103	D-2	IC203	F-3	Q104	H-1	Q220	D-4	Q333	C-4	RV312	I-5	TPE1	A-2
D104	D-1	IC204	E-2	Q105	H-1	Q221	D-3	Q334	C-5	RV313	I-5	TPE2	A-6
D105	D-2	IC205	E-2	Q106	H-2	Q222	D-3	Q336	C-4	RV314	H-5	TPE3	K-6
D106	J-2	IC206	D-3	Q107	J-1	Q223	D-3	Q337	C-5				
D201	G-3	IC207	C-3	Q108	H-2	Q224	C-3	Q339	I-5	S100	K-5		
D202	G-3	IC208	G-3	Q109	G-1	Q225	J-3	Q340	I-5	S200	K-1		
D203	D-3	IC209	G-3	Q110	G-2	Q226	C-3	Q341	I-5	S201	I-6		
D204	D-3	IC210	D-3	Q111	G-2	Q227	I-4	Q342	I-5	S300	C-6		
D205	D-3	IC211	D-3	Q112	G-2	Q228	I-4			S301	C-6		
D206	J-4	IC212	J-3	Q113	F-1	Q229	H-3	RV1	F-6				
D301	G-4	IC213	J-3	Q114	F-1	Q230	C-3	RV2	K-5	TP1	F-6		
D302	G-5	IC214	J-4	Q115	E-1	Q231	C-3	RV3	K-5	TP2	E-6		
D303	D-5	IC215	I-6	Q116	E-2	Q232	C-1	RV5	D-6	TP3	E-6		
D304	D-4	IC217	I-6	Q117	E-1	Q233	C-3	RV100	I-2	TP91	A-6		
D305	D-5	IC300	I-4	Q118	E-2	Q234	C-3	RV101	I-2	TP92	A-5		
D306	J-5	IC301	H-4	Q119	D-2	Q237	C-3	RV102	H-2	TP100	H-2		
D307	J-2	IC302	H-4	Q120	D-1	Q238	C-3	RV103	K-2	TP101	H-2		
D308	J-3	IC303	F-4	Q121	D-1	Q239	I-3	RV104	K-1	TP102	G-2		
D309	J-4	IC304	E-4	Q122	D-1	Q240	I-4	RV105	K-2	TP103	G-2		
		IC305	E-4	Q123	C-2	Q241	I-3	RV106	G-2	TP104	G-1		
E11	F-1	IC306	D-5	Q124	J-2	Q242	I-4	RV107	E-2	TP105	G-2		
E21	F-3	IC307	C-4	Q125	C-1	Q243	A-5	RV108	D-2	TP106	G-2		
E31	F-4	IC308	G-5	Q126	C-1	Q244	I-6	RV109	D-1	TP107	F-1		
		IC309	G-4	Q127	I-2	Q300	I-4	RV110	C-2	TP108	B-2		
IC1	F-5	IC310	D-4	Q128	I-2	Q301	I-4	RV111	K-2	TP109	B-2		
IC2	F-5	IC311	D-4	Q129	H-2	Q302	I-5	RV112	I-2	TP110	F-2		

PR-114 BOARD

Serial No. 10401 –



1-627-251-13 SOLDERING SIDE

PR-114 1-627-251-13

CN1	A-4	IC3	E-5	IC312	J-4	Q130	C-2	Q303	I-5	RV113	I-2	TP111	E-2
		IC4	J-6	IC313	J-5	Q131	C-2	Q304	H-4	RV114	H-2	TP112	C-2
COP11	I-1	IC5	D-6	IC401	A-1	Q132	C-1	Q305	H-4	RV200	I-3	TP200	H-3
COP12	I-2	IC6	D-6			Q133	C-2	Q306	H-5	RV201	I-3	TP201	H-4
COP13	I-2	IC7	C-6	Q1	H-6	Q134	C-1	Q307	J-4	RV202	H-3	TP202	G-4
COP21	I-3	IC8	B-6	Q2	H-6	Q136	C-2	Q308	H-5	RV203	K-2	TP203	G-3
COP22	I-3	IC9	B-6	Q3	A-2	Q139	I-2	Q309	G-4	RV204	K-2	TP204	G-3
COP23	I-3	IC10	B-6	Q4	H-6	Q140	I-2	Q310	G-5	RV205	K-3	TP205	G-3
COP31	I-4	IC11	B-6	Q5	H-6	Q141	I-2	Q311	G-5	RV206	G-3	TP206	G-4
COP32	I-5	IC12	I-6	Q6	H-6	Q142	I-2	Q312	G-5	RV207	E-4	TP207	F-3
		IC13	A-2	Q7	G-5	Q200	I-3	Q313	F-4	RV208	D-4	TP208	B-3
DL1	F-2	IC14	A-1	Q8	G-6	Q201	I-3	Q314	F-4	RV209	D-3	TP209	B-3
DL2	F-3	IC100	I-1	Q9	G-6	Q202	I-3	Q315	E-4	RV210	C-4	TP210	F-3
DL3	F-5	IC101	H-1	Q10	G-6	Q203	I-3	Q316	E-5	RV211	K-4	TP211	E-3
DL4	G-6	IC102	H-1	Q11	F-6	Q204	H-3	Q317	E-4	RV212	I-3	TP212	C-3
DL5	G-6	IC103	F-1	Q12	F-6	Q205	H-3	Q318	E-5	RV213	I-3	TP300	H-5
		IC104	E-1	Q13	F-6	Q207	H-3	Q319	D-5	RV214	H-4	TP301	H-5
D2	D-6	IC105	E-1	Q14	F-6	Q208	J-2	Q320	D-4	RV300	I-5	TP302	G-5
D3	D-6	IC106	D-2	Q15	F-6	Q209	H-3	Q321	D-4	RV301	I-5	TP303	G-5
D4	A-1	IC107	C-1	Q16	E-6	Q210	G-3	Q322	D-4	RV302	H-5	TP304	G-4
D5	F-6	IC108	G-2	Q17	E-6	Q211	G-3	Q323	C-5	RV303	K-3	TP305	G-5
D11	H-2	IC109	G-1	Q18	E-6	Q212	G-3	Q324	J-5	RV304	K-3	TP306	G-5
D12	H-2	IC110	D-1	Q19	E-6	Q213	G-3	Q325	C-4	RV305	K-3	TP307	F-4
D21	H-3	IC111	D-1	Q20	E-6	Q214	F-3	Q327	I-5	RV306	G-5	TP308	B-5
D22	H-3	IC112	J-2	Q21	H-6	Q215	F-3	Q328	I-5	RV307	E-5	TP309	B-5
D31	H-5	IC113	J-2	Q100	H-6	Q216	E-2	Q329	H-5	RV308	D-5	TP301	F-5
D32	H-5	IC200	I-3	Q101	I-1	Q217	E-4	Q330	C-5	RV309	D-4	TP311	E-5
D101	G-1	IC201	H-3	Q102	I-2	Q218	E-3	C331	C-4	RV310	C-5	TP312	C-5
D102	G-2	IC202	H-3	Q103	I-2	Q219	E-3	Q332	C-5	RV311	K-3		
D103	D-2	IC203	F-3	Q104	H-1	Q220	D-4	Q333	C-4	RV312	I-5	TPE1	A-2
D104	D-1	IC204	E-2	Q105	H-1	Q221	D-3	Q334	C-5	RV313	I-5	TPE2	A-6
D105	D-2	IC205	E-2	Q106	H-2	Q222	D-3	Q336	C-4	RV314	H-5	TPE3	K-6
D106	J-2	IC206	D-3	Q107	J-1	Q223	D-3	Q337	C-5				
D201	G-3	IC207	C-3	Q108	H-2	Q224	C-3	Q339	I-5	S100	K-5		
D202	G-3	IC208	G-3	Q109	G-1	Q225	J-3	Q340	I-5	S200	K-1		
D203	D-3	IC209	G-3	Q110	G-2	Q226	C-3	Q341	I-5	S201	I-6		
D204	D-3	IC210	D-3	Q111	G-2	Q227	I-4	Q342	I-5	S300	C-6		
D205	D-3	IC211	D-3	Q112	G-2	Q228	I-4			S301	C-6		
D206	J-4	IC212	J-3	Q113	F-1	Q229	H-3	RV1	F-6				
D301	G-4	IC213	J-3	Q114	F-1	Q230	C-3	RV2	K-5	TP1	F-6		
D302	G-5	IC214	J-4	Q115	E-1	Q231	C-3	RV3	K-5	TP2	E-6		
D303	D-5	IC215	I-6	Q116	E-2	Q232	C-1	RV5	D-6	TP3	E-6		
D304	D-4	IC217	I-6	Q117	E-1	Q233	C-3	RV100	I-2	TP91	A-6		
D305	D-5	IC300	I-4	Q118	E-2	Q234	C-3	RV101	I-2	TP92	A-5		
D306	J-5	IC301	H-4	Q119	D-2	Q237	C-3	RV102	H-2	TP100	H-2		
D307	J-2	IC302	H-4	Q120	D-1	Q238	C-3	RV103	K-2	TP101	H-2		
D308	J-3	IC303	F-4	Q121	D-1	Q239	I-3	RV104	K-1	TP102	G-2		
D309	J-4	IC304	E-4	Q122	D-1	Q240	I-4	RV105	K-2	TP103	G-2		
		IC305	E-4	Q123	C-2	Q241	I-3	RV106	G-2	TP104	G-1		
E11	F-1	IC306	D-5	Q124	J-2	Q242	I-4	RV107	E-2	TP105	G-2		
E21	F-3	IC307	C-4	Q125	C-1	Q243	A-5	RV108	D-2	TP106	G-2		
E31	F-4	IC308	G-5	Q126	C-1	Q244	I-6	RV109	D-1	TP107	F-1		
		IC309	G-4	Q127	I-2	Q300	I-4	RV110	C-2	TP108	B-2		
IC1	F-5	IC310	D-4	Q128	I-2	Q301	I-4	RV111	K-2	TP109	B-2		
IC2	F-5	IC311	D-4	Q129	H-2	Q302	I-5	RV112	I-2	TP110	F-2		

PR-114 (2/3) BOARD

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C-29
C-30

*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	R140	100 1/10W → 68 1/10W	10201-
	R156 R362 R564	2200 → 2K	
	R177 R383 R585	120K → 100K	
	RV100	2K → 10K	
	RV114 RV214 RV314	ADD	
*2	IC12	TC4081BF → MC14081BF	10401-

PR-114 (2/3) BOARD

PR-114 (3/3) BOARD

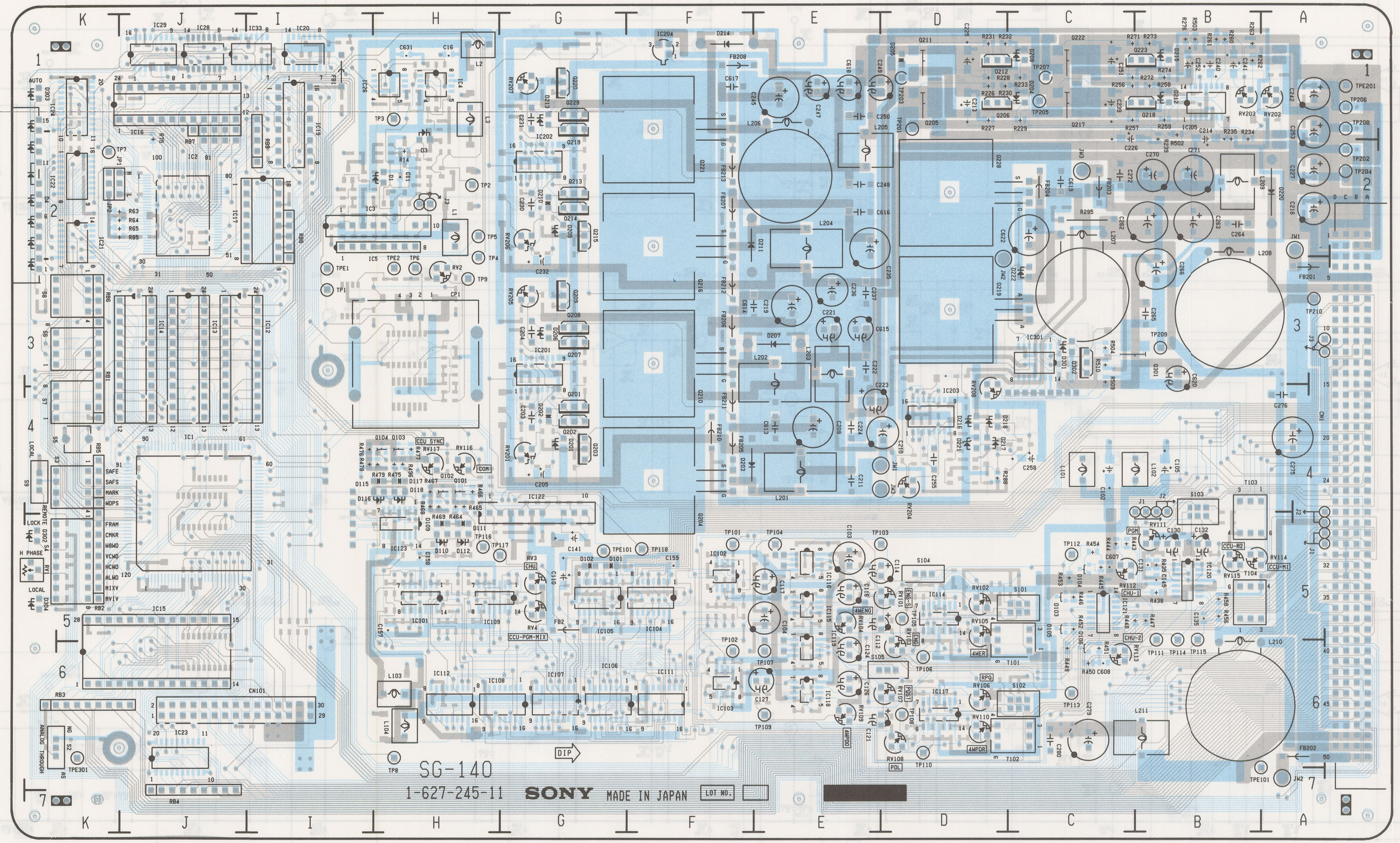
FROM D/3
+9V R
+5V R
R
GND R
-5V R
R-GAMMA CTL IN
+9V G
+5V G
G
GND G
-5V G
G-GAMMA CTL IN
+9V B
+5V B
B
GND B
-5V B
B-GAMMA CTL IN
APERTURE
CLP
ON/OFF
ON/OFF
ANALOG
DIGITAL
ADV-R OUT
R OUT
ADV-R GND
R GND
ADV-G OUT
G OUT
ADV-G GND
G GND
ADV-B OUT
B OUT
ADV-B GND
B GND
AD-39
1-9A
1-9B
1
2
3
4
5
6

*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	R229 R435 R636	5600 1/10W → 2700 1/10W	10301-
*2	R251 R457	270 → 30	10401-
	R659	270 → 91	
	THP1 THP2 THP3	ADD	

PR-114 (3/3) BOARD

SG-140 BOARD Serial No. 10001 – 10009

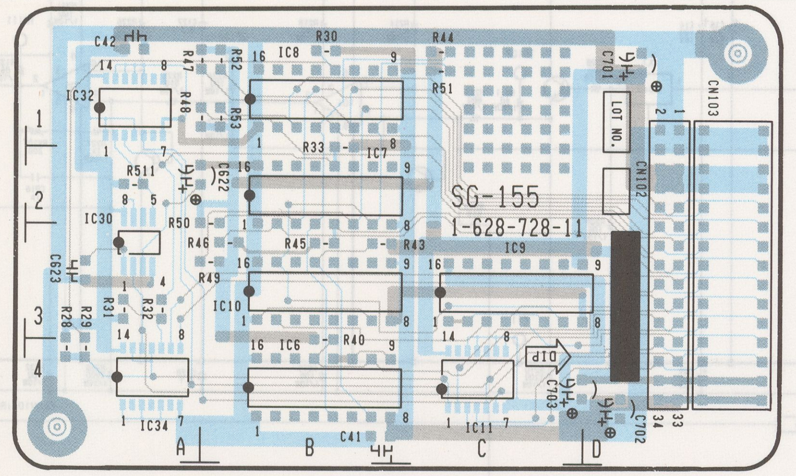


1-627-245-11 COMPONENT SIDE

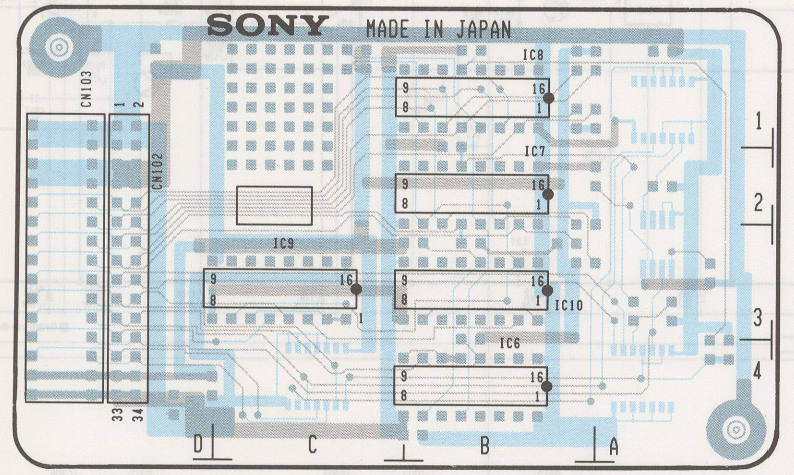
SG-140 1-627-245-11

CN1	A-4
CN101	J-6
CP1	H-3
D1	H-2
D3	H-1
D4	K-2
D101	G-5
D102	G-5
D103	C-5
D104	C-5
D105	C-5
D106	C-6
D107	H-5
D108	H-5
D109	H-5
D110	H-5
D111	H-5
D112	H-5
D113	H-4
D114	H-4
D115	H-4
D116	H-4
D117	H-4
D118	H-4
D201	G-4
D202	G-4
D203	F-4
D204	C-1
D205	D-1
D206	G-3
D207	E-3
D208	C-1
D209	G-2
D210	G-2
D211	F-2
D212	B-1
D213	G-1
D214	F-1
D215	B-1
D216	D-4
D217	D-4
D218	D-4
D219	C-3
D220	A-2
D221	D-4
D222	C-3
D301	C-3
D302	K-5
D303	K-1
D304	K-5
FB1	I-1
FB2	G-5
FB201	A-3
FB202	A-6
FB203	C-2
FB204	C-2
FB205	F-4
FB206	F-3
FB207	F-2
FB208	F-1
FB210	F-4
FB211	F-4
FB212	F-3
FB213	F-2
IC1	J-4
IC2	J-2
IC3	H-2
IC5	H-2
IC12	J-3
IC13	J-3
IC14	J-3
IC15	J-6
IC16	J-1
IC17	I-2
IC18	J-6
IC19	I-1
IC20	I-1
IC21	K-2
IC22	K-2
IC23	J-6
IC24	K-1
IC25	J-4
IC27	H-4
IC28	J-1
IC29	J-1
IC31	H-3
IC33	I-1
IC35	J-4
IC36	J-1
IC101	H-5
IC102	F-5
IC103	F-6
IC104	F-5
IC105	G-5
IC106	G-6
IC107	G-6
IC108	G-6
IC109	H-5
IC111	F-6
IC112	H-6
IC114	D-5
IC115	E-5
IC116	E-5
IC117	D-6
IC118	E-6
IC119	E-6
IC120	B-5
IC121	C-5
IC122	G-4
IC123	H-5
IC201	G-3
IC202	G-2
IC203	D-4
IC204	F-1
IC205	B-1
IC301	C-3
IC601	I-3
Q1	I-2
Q2	H-2
Q3	H-2
Q4	H-2
Q6	H-2
Q8	H-1
Q10	I-1
Q101	H-4
Q102	H-4
Q103	H-4
Q104	H-4
Q201	G-4
Q202	G-4
Q203	G-4
Q204	F-4
Q206	D-1
Q207	G-3
Q208	G-3
Q209	G-3
Q210	F-3
Q212	D-1
Q213	G-2
Q214	G-2
Q215	G-2
Q216	F-2
Q218	B-1
Q219	D-3
Q219	G-1
Q220	G-1
Q221	F-1
Q223	B-1
Q224	D-4
Q225	D-4
Q226	D-4
Q227	C-4
Q228	D-2
Q229	G-1
Q302	C-3
RB1	K-3
RB2	K-5
RB3	K-6
RB4	J-7
RB5	K-4
RB6	K-3
RB7	J-1
RB8	I-2
RB9	I-1
RV1	K-5
RV2	H-3
RV3	G-5
RV4	G-5
RV101	D-5
RV102	D-5
RV103	D-6
RV104	E-5
RV105	D-5
RV106	D-6
RV107	D-6
RV108	D-6
RV109	E-6
RV110	D-6
RV111	B-5
RV112	C-5
RV113	C-6
RV114	B-5
RV115	B-5
RV116	H-4
RV117	H-4
RV201	G-4
RV202	A-1
RV203	B-1
RV204	D-4
RV205	G-3
RV206	G-2
RV207	G-1
RV208	D-4
S2	K-6
S3	K-4
S4	K-5
S5	K-4
S6	K-3
S7	K-4
S8	K-3
S9	K-4
S101	C-5
S102	C-6
S103	B-4
S104	D-5
S105	D-6
T101	C-5
T102	C-6
T103	B-4
T104	B-5
TP1	I-3
TP2	H-2
TP3	H-1
TP4	H-2
TP5	H-2
TP6	H-3
TP7	K-2
TP8	H-6
TP9	H-3
TP101	F-5
TP102	F-6
TP103	D-5
TP104	E-5
TP105	D-5
TP106	D-6
TP107	E-6
TP108	D-6
TP109	E-6
TP110	D-6
TP111	B-6
TP112	C-5
TP113	C-6
TP114	B-6
TP115	B-6
TP116	H-5
TP117	G-5
TP118	F-5
TP201	D-1
TP202	A-2
TP203	D-1
TP204	A-2
TP205	C-1
TP206	A-1
TP207	C-1
TP208	A-1
TP209	B-3
TP210	A-3
TPE1	I-3
TPE2	H-3
TPE101	A-7
TPE101	G-5
TPE201	A-1
TPE301	K-6

SG-155 BOARD Serial No. 10001 – 10009



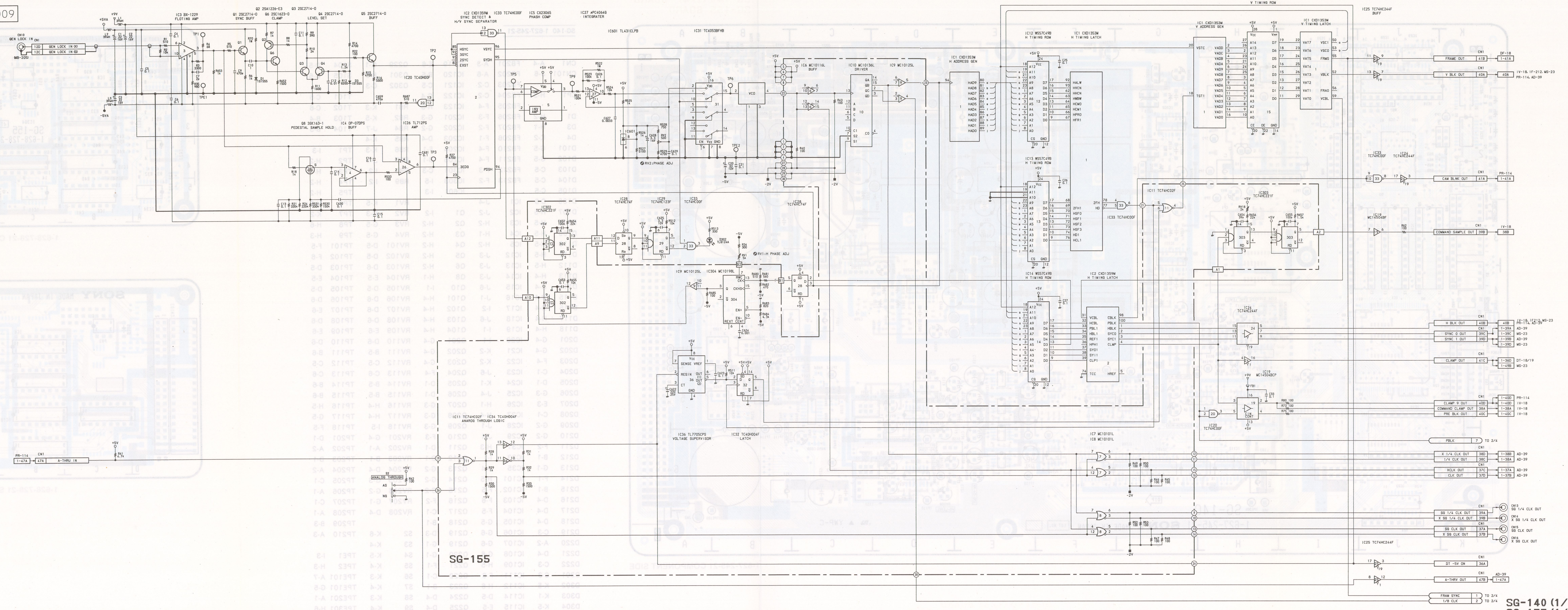
1-628-728-11 COMPONENT SIDE



1-628-728-11 SOLDERING SIDE

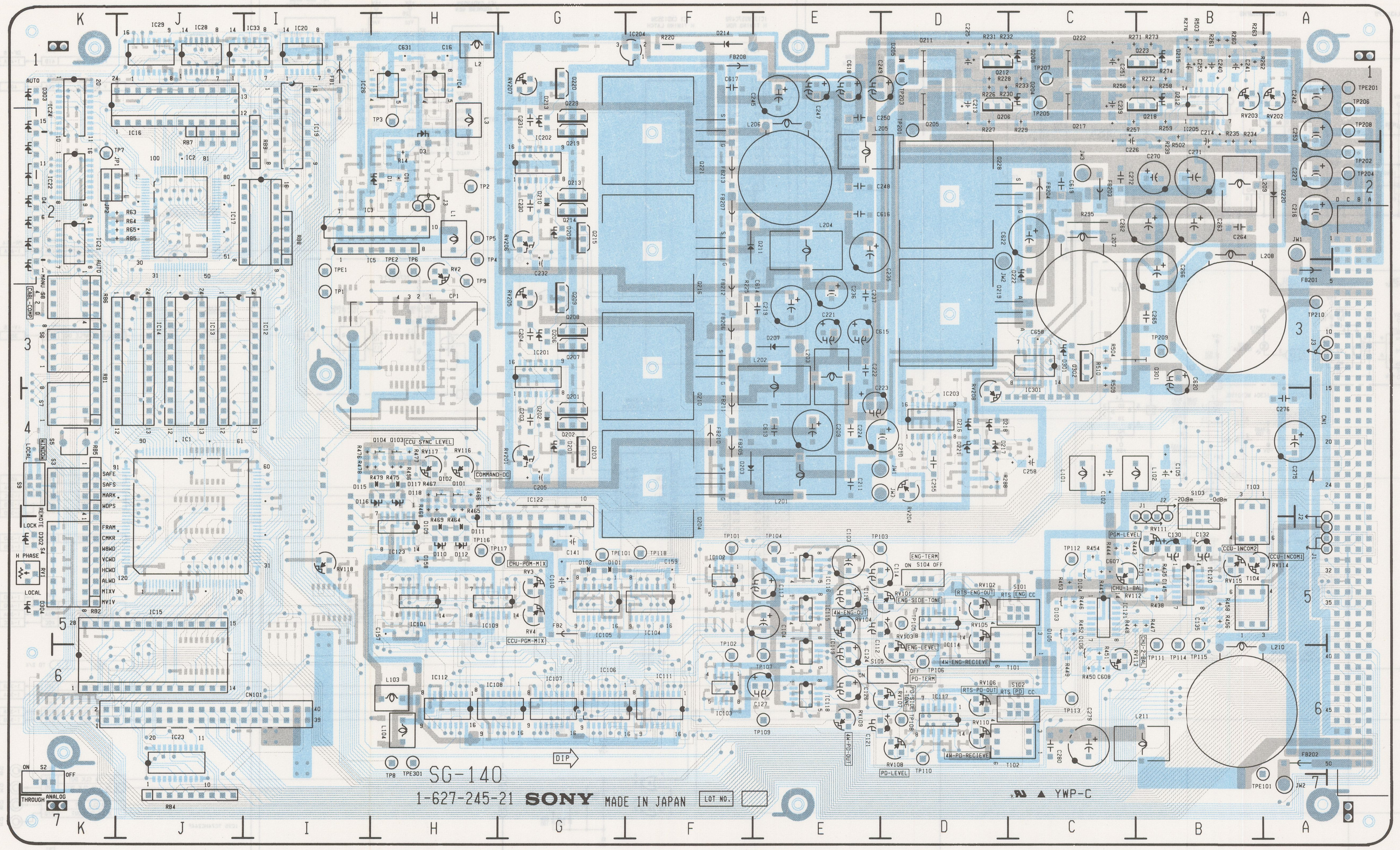
SG-140 (1/4) BOARD
SG-155 BOARD

Serial No. 10001-10009


CN10
GEN LOCK IN
CN1
12D GEN LOCK IN (X)
12C GEN LOCK IN (G)
(MB-205)
+5VA
+9V
-5VA
IC3 BX-1229
FLOTING AMP
Q1 2SC2714-0
SYNC BUFF
Q2 2SA1226-E3
Q6 2SC1623-0
CLAMP
TP1
TPE1
PR-114
1-47A
47A A-THRU IN
S2
ANALOG THROUGH
AS
NG
IC11 TC74HC02F IC34 TC40H004F
ANAROG THROUGH LOGIC
SG-155
IC25 TC74HC244F
BUFF
FRAME OUT 41B
DF-18 1-41A
V BLK OUT 40A
40A IV-18, 1F-212, MS-23 PR-114, AD-39
IC33 TC74HC00F
IC24 TC74HC244F
CAM BLNK OUT 41A
PR-114 1-41A
IC19 MC14504BF
COMMAND SAMPLE OUT 39B
IV-18 38B
H BLK OUT 40B
40B IV-18, IF212, MS-23 PR-114, AD-39
SYNC 0 OUT 39C
SYNC 1 OUT 39D
1-39A AD-39
1-39C MS-23
1-39B AD-39
1-39D MS-23
CLAMP OUT 41C
1-36D DT-18/19
1-49B MS-23
CLAMP 9 OUT 40D
COMMAND CLAMP OUT 38A
PRE BLK OUT 40C
1-40D PR-114
1-40D IV-18
1-38A IV-18
1-40C IV-18
PBLK 7 TO 2/4
X 1/4 CLK OUT 38D
1/4 CLK OUT 38C
1-38B AD-39
1-38A AD-39
XCLK OUT 37C
CLK OUT 37D
1-37A AD-39
1-37B AD-39
SG 1/4 CLK OUT 39A
X SG 1/4 CLK OUT 39B
SG CLK OUT 37A
X SG CLK OUT 37B
CN13 SG 1/4 CLK OUT
CN14 X SG 1/4 CLK OUT
CN15 SG CLK OUT
CN16 X SG CLK OUT
DT -5V ON 36A
A-THRV OUT 47B
AD-39 1-47A
FRAM SYNC 1 TO 2/4
1/8 CLK 2 TO 2/4

SG-140 (1/4) BOARD
SG-155 (1/2) BOARD

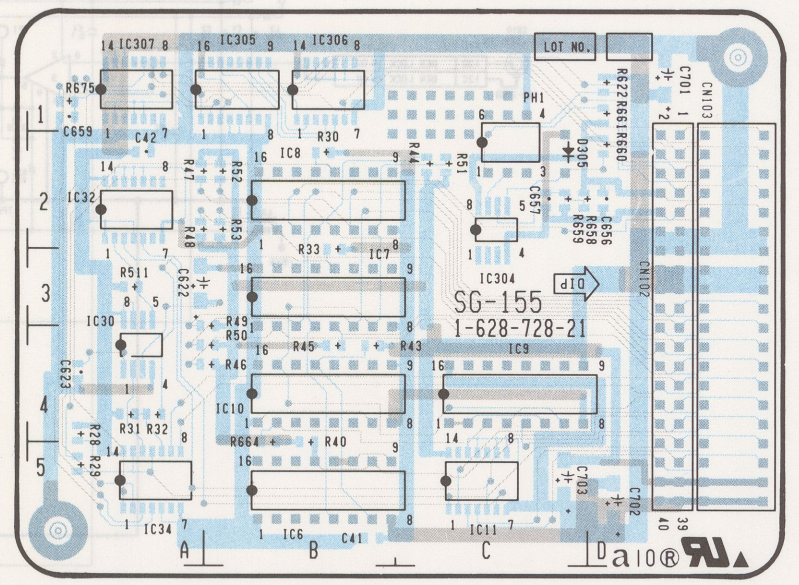
SG-140 BOARD Serial No. 10101 – 10120



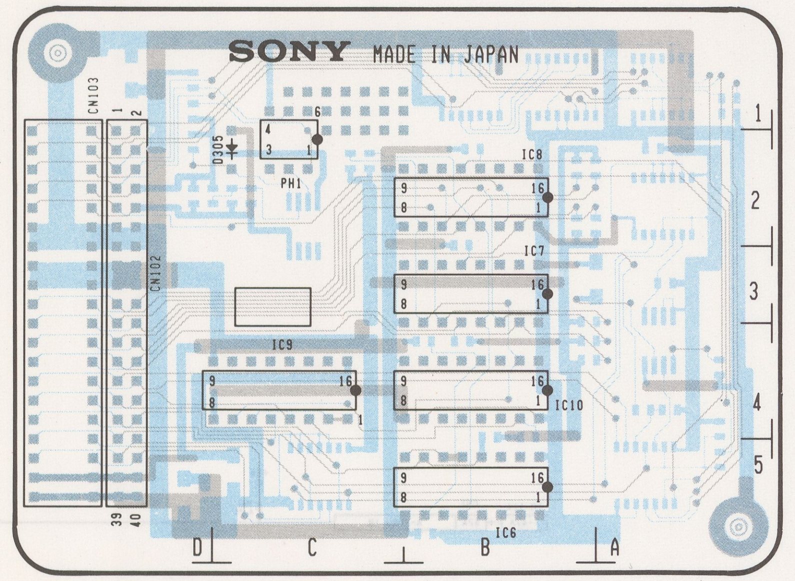
1-627-245-21 COMPONENT SIDE

SG-140 1-627-245-21	
CN1	A-4
CN101	J-6
CP1	H-3
D1	H-2
D3	H-1
D4	K-2
D101	G-5
D102	G-5
D103	C-5
D104	C-5
D105	C-5
D106	C-6
D107	H-5
D108	H-5
D109	H-5
D110	H-5
D111	H-5
D112	H-5
D113	H-4
D114	H-4
D115	H-4
D116	H-4
D117	H-4
D118	H-4
D201	G-4
D202	G-4
D203	F-4
D204	C-1
D205	D-1
D206	G-3
D207	E-3
D208	C-1
D209	G-2
D210	G-2
D211	F-2
D212	B-1
D213	G-1
D214	F-1
D215	B-1
D216	D-4
D217	D-4
D218	D-4
D219	C-3
D220	A-2
D221	D-4
D222	C-3
D301	C-3
D302	K-5
D303	K-1
D304	K-5
FB1	I-1
FB2	G-5
FB201	A-3
FB202	A-6
FB203	C-2
FB204	C-2
FB205	F-4
FB206	F-3
FB207	F-2
FB208	F-1
FB210	F-4
FB211	F-4
FB212	F-3
FB213	F-2
IC1	J-4
IC2	J-2
IC3	H-2
IC4	H-1
IC5	H-2
IC12	J-3
IC13	J-3
IC14	J-3
IC15	J-6
IC16	J-1
IC17	I-2
IC18	J-6
IC19	I-1
IC20	I-1
IC21	K-2
IC22	K-2
IC23	J-6
IC24	K-1
IC25	J-4
IC26	H-1
IC27	H-4
IC28	J-1
IC29	J-1
IC31	H-3
IC33	I-1
IC35	J-4
IC101	H-5
IC102	F-5
IC103	F-6
IC104	F-5
IC105	G-5
IC106	G-6
IC107	G-6
IC108	G-6
IC109	H-5
IC111	F-6
IC112	H-6
IC114	D-5
IC115	E-5
IC116	E-5
IC117	D-6
IC118	E-6
IC119	E-6
IC120	B-5
IC121	C-5
IC122	G-4
IC123	H-5
IC201	G-3
IC202	G-2
IC203	D-4
IC204	F-1
IC205	B-1
IC301	C-3
IC303	I-5
IC601	I-3
Q1	I-2
Q2	H-2
Q3	H-2
Q4	H-2
Q5	H-2
Q6	H-2
Q8	H-1
Q10	I-1
Q101	H-4
Q102	H-4
Q103	H-4
Q104	H-4
Q201	G-4
Q202	G-4
Q203	G-4
Q204	F-4
Q205	D-1
Q206	D-1
Q207	G-3
Q208	G-3
Q209	G-3
Q210	F-3
Q211	D-1
Q212	D-1
Q213	G-2
Q214	G-2
Q215	G-2
Q216	F-2
Q217	C-1
Q218	B-1
Q219	D-3
Q219	G-1
Q220	G-1
Q221	F-1
Q222	C-1
Q223	B-1
Q224	D-4
Q225	D-4
Q226	D-4
Q227	C-4
Q228	D-2
Q229	G-1
Q301	B-3
Q302	C-3
RB1	K-3
RB2	K-5
RB4	J-7
RB5	K-4
RB6	K-3
RB7	J-1
RB8	I-2
RB9	I-2
RV1	K-5
RV2	H-3
RV3	G-5
RV4	G-5
RV101	D-5
RV102	D-5
RV103	D-6
RV104	E-5
RV105	D-5
RV106	D-6
RV107	D-6
RV108	D-6
RV109	E-6
RV110	D-6
RV111	B-5
RV112	C-5
RV113	C-6
RV114	B-5
RV115	B-5
RV116	H-4
RV117	H-4
RV118	I-5
RV201	G-4
RV202	A-1
RV203	B-1
RV204	D-4
RV205	G-3
RV206	G-2
RV207	G-1
RV208	D-4
S2	K-6
S3	K-4
S4	K-5
S5	K-4
S6	K-3
S7	K-4
S8	K-3
S9	K-4
S101	C-5
S102	C-6
S103	B-4
S104	D-5
S105	D-6
T101	C-5
T102	C-6
T103	B-4
T104	B-5
TP1	I-3
TP2	H-2
TP3	H-1
TP4	H-2
TP5	H-2
TP6	H-3
TP7	K-2
TP8	H-6
TP9	H-3
TP101	F-5
TP102	F-6
TP103	D-5
TP104	E-5
TP105	D-5
TP106	D-6
TP107	E-6
TP108	D-6
TP109	E-6
TP110	D-6
TP111	B-6
TP112	C-5
TP113	C-6
TP114	B-6
TP115	B-6
TP116	H-5
TP117	G-5
TP118	F-5
TP201	D-1
TP202	A-2
TP203	D-1
TP204	A-2
TP205	C-1
TP206	A-1
TP207	C-1
TP208	A-1
TP209	B-3
TP210	A-3
TPE1	I-3
TPE2	H-3
TPE101	A-7
TPE101	G-5
TPE201	A-1
TPE301	H-6

SG-155 BOARD Serial No. 10101 – 10120

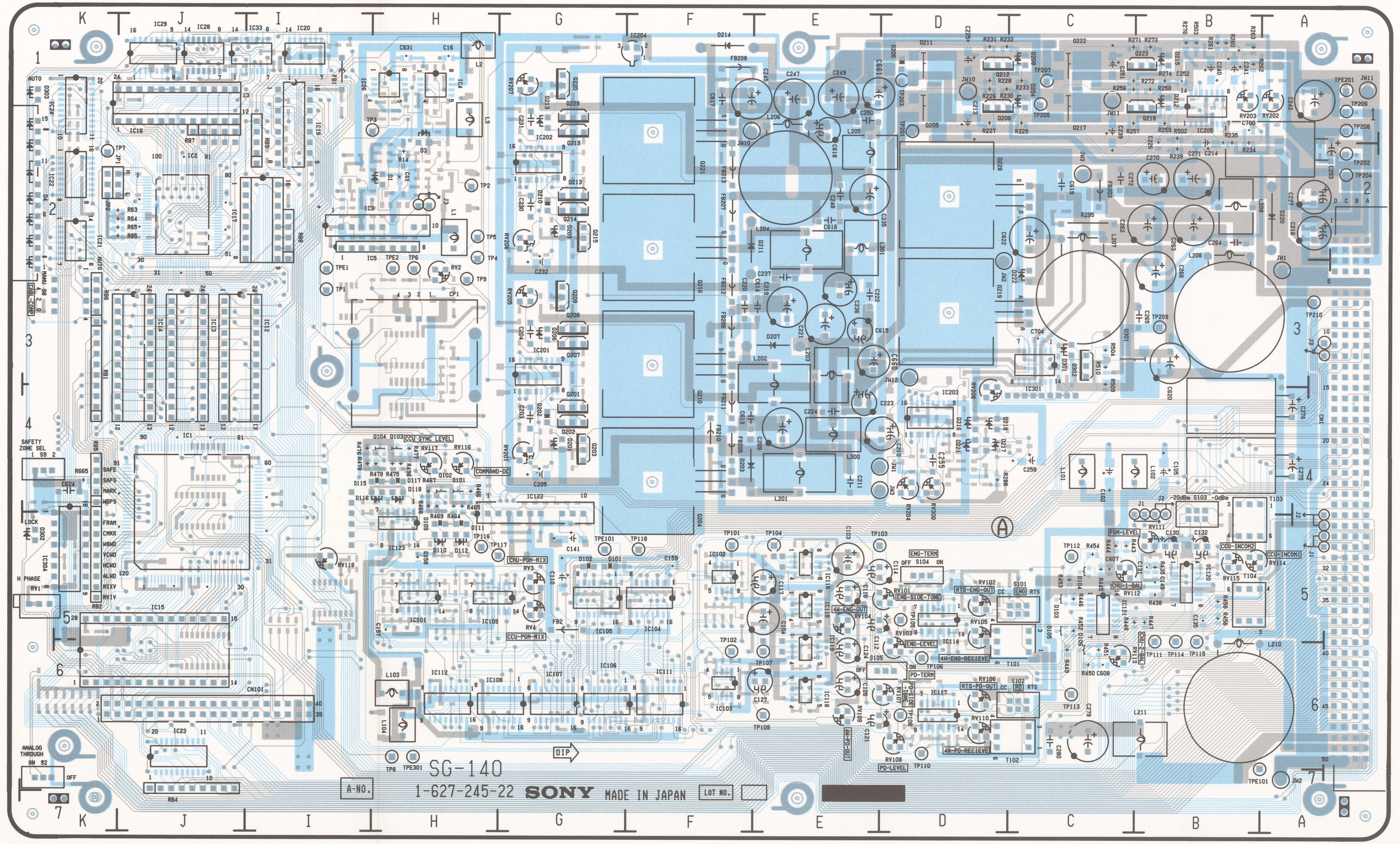


1-628-728-21 COMPONENT SIDE



1-628-728-21 SOLDERING SIDE

SG-140 BOARD Serial No. 10201 – 10310

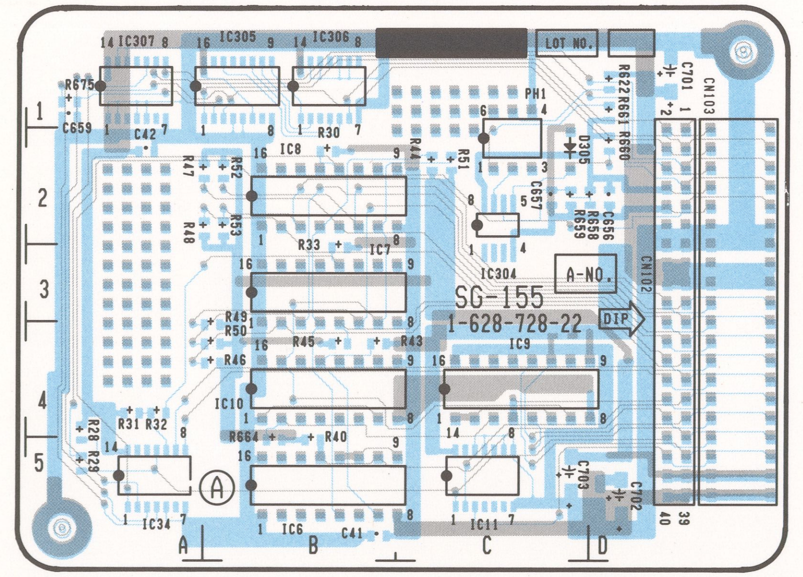


1-627-245-22 COMPONENT SIDE

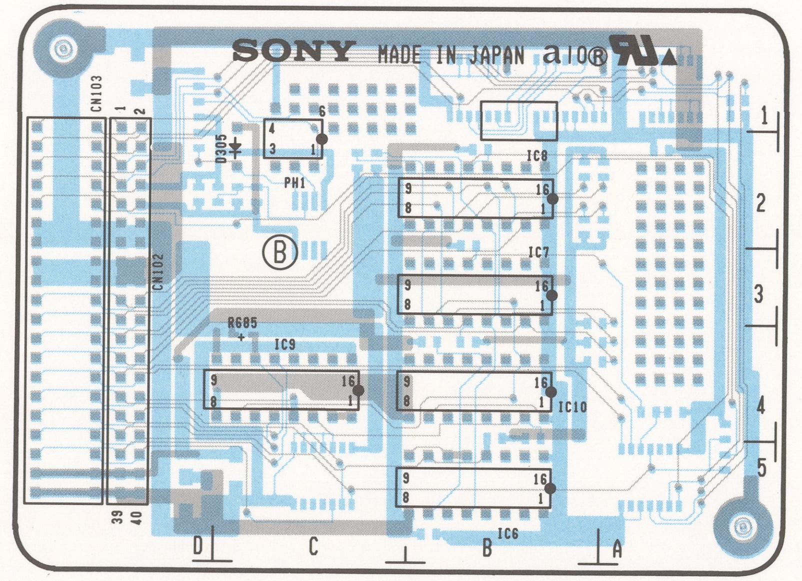
SG-140 1-627-245-22

CN112	J-3
CN113	J-3
CN114	J-3
CN115	J-5
CN116	J-1
CN117	J-2
CN1	A-4
D1	H-2
D3	H-2
D4	K-2
D101	G-5
D102	G-5
D103	C-5
D104	C-5
D105	C-5
D106	C-5
D107	H-5
D108	H-5
D109	H-5
D110	H-5
D111	H-5
D112	H-5
D113	H-5
D114	H-5
D115	I-4
D116	I-4
D117	H-4
D118	H-4
D201	G-4
D202	G-4
D203	F-4
D204	C-1
D205	D-1
D206	G-3
D207	E-3
D208	C-1
D209	G-2
D210	G-2
D211	E-2
D212	B-1
D213	G-1
D214	F-1
D215	B-1
D216	D-4
D217	D-4
D218	D-4
D219	D-3
D220	A-2
D221	D-4
D222	C-3
D301	C-3
D302	K-5
D303	K-1
D304	K-5
FB1	I-1
FB2	G-5
FB202	A-6
FB203	C-2
FB204	C-2
FB205	F-4
FB206	F-3
FB207	F-2
FB208	F-1
FB210	F-4
FB211	F-4
FB212	F-3
FB213	F-2
IC1	J-4
IC2	J-2
IC3	I-2
IC4	H-1
IC5	I-2
IC18	J-6
IC19	I-1
IC20	I-1
IC21	K-2
IC22	K-2
IC23	H-5
IC24	K-1
IC25	J-5
IC26	I-1
IC27	H-3
IC28	J-1
IC29	J-1
IC31	H-3
IC33	I-1
IC35	J-4
IC101	H-5
IC102	F-5
IC103	F-6
IC104	F-5
IC105	G-5
IC106	G-6
IC107	G-6
IC108	H-6
IC109	H-5
IC111	F-6
IC112	H-6
IC114	D-5
IC115	E-5
IC116	E-5
IC117	D-6
IC118	E-6
IC119	E-6
IC120	B-5
IC121	C-5
IC122	G-4
IC123	H-5
IC201	G-3
IC202	G-2
IC203	D-4
IC204	F-1
IC205	B-1
IC301	C-3
IC302	J-1
IC303	I-5
IC601	I-3
JW101	A-3
Q1	I-2
Q2	H-2
Q3	H-2
Q4	H-2
Q5	H-2
Q6	H-2
Q8	H-1
Q10	I-1
Q101	H-4
Q102	H-4
Q103	H-4
Q104	H-4
Q201	G-4
Q202	G-4
Q203	G-4
Q204	F-5
Q205	D-1
Q206	D-1
Q207	G-3
Q208	G-3
Q209	G-3
Q210	F-4
Q211	D-1
Q212	D-1
Q213	G-2
Q214	G-2
Q215	G-2
Q216	F-3
Q217	C-1
Q218	B-1
Q219	G-2
Q220	G-1
Q221	F-2
Q222	C-1
Q223	B-1
Q224	D-4
Q225	D-4
Q226	D-4
Q227	C-4
Q228	D-2
Q229	G-1
Q301	B-3
Q302	C-3
RB1	K-3
RB2	K-5
RB4	J-7
RB5	K-4
RB6	K-3
RB7	J-2
RB8	I-2
RB9	I-2
RV1	K-5
RV2	H-3
RV3	G-5
RV4	G-5
RV101	D-5
RV102	D-5
RV103	D-6
RV104	E-5
RV105	D-5
RV106	D-6
RV107	D-6
RV108	D-6
RV109	E-6
RV110	D-6
RV111	B-5
RV112	C-5
RV113	C-6
RV114	A-5
RV115	B-5
RV116	H-4
RV117	H-4
RV118	I-5
RV201	G-4
RV202	A-1
RV203	B-1
RV204	D-4
RV205	G-3
RV206	G-2
RV207	G-1
RV208	D-4
S2	K-6
S3	K-4
S4	K-5
S5	K-4
S6	K-3
S7	K-4
S8	K-3
S9	K-4
S101	C-5
S102	C-6
S103	B-4
S104	D-5
S105	D-6
TPE1	I-3
TPE2	H-3
TPE101	B-7
TPE102	G-5
TPE201	A-1
TPE301	H-6
TP1	I-3
TP2	H-2
TP3	H-1
TP4	H-3
TP5	H-2
TP6	H-3
TP7	K-2
TP8	H-6
TP9	H-3
TP101	F-5
TP102	F-6
TP103	D-5
TP104	E-5
TP105	D-5
TP106	D-6
TP107	E-6
TP108	D-6
TP109	E-6
TP110	D-6
TP111	B-6
TP112	C-5
TP113	C-6
TP114	B-6
TP115	B-6
TP116	H-5
TP117	G-5
TP118	F-5
T104	B-5

SG-155 BOARD Serial No. 10201 – 10310



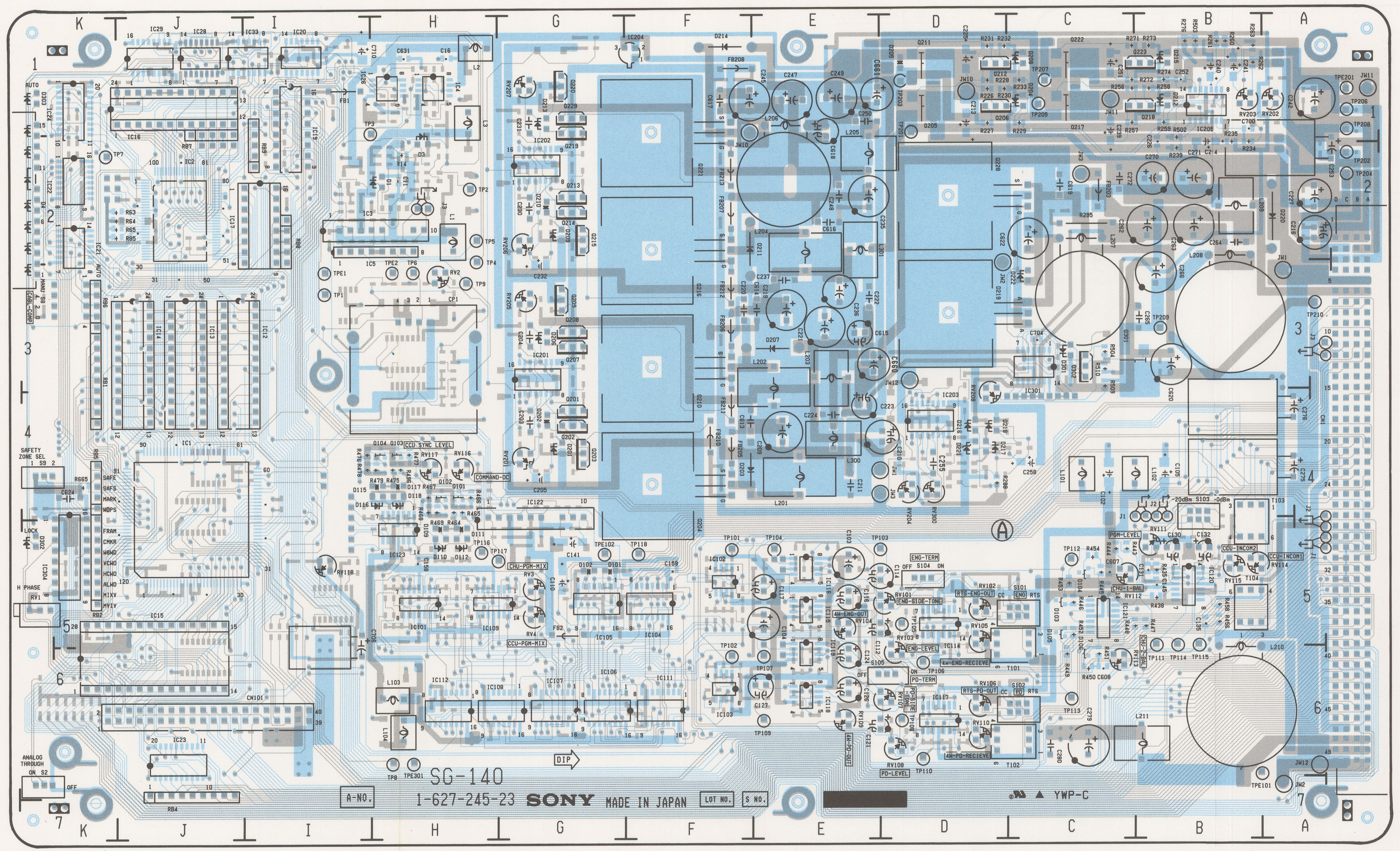
1-628-728-22 COMPONENT SIDE



1-628-728-22 SOLDERING SIDE

SG-140 BOARD

Serial No. 10401 –



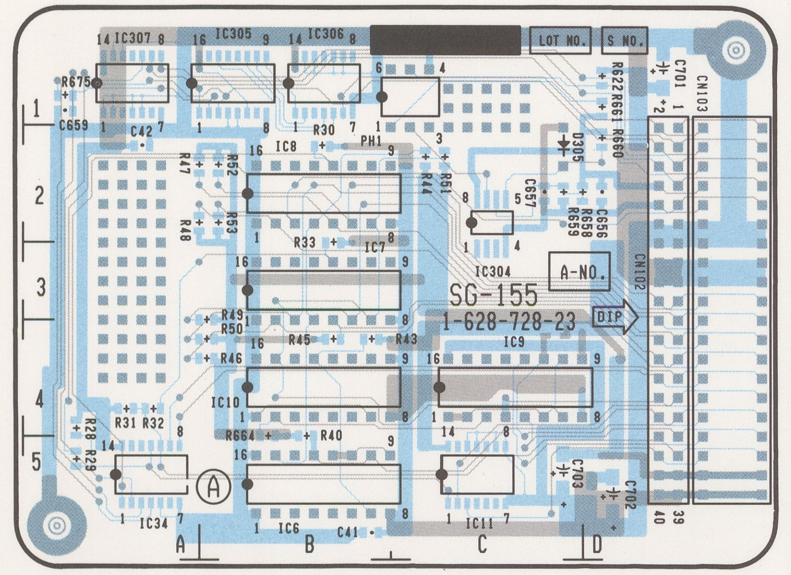
1-627-245-23 COMPONENT SIDE

SG-140 1-627-245-23

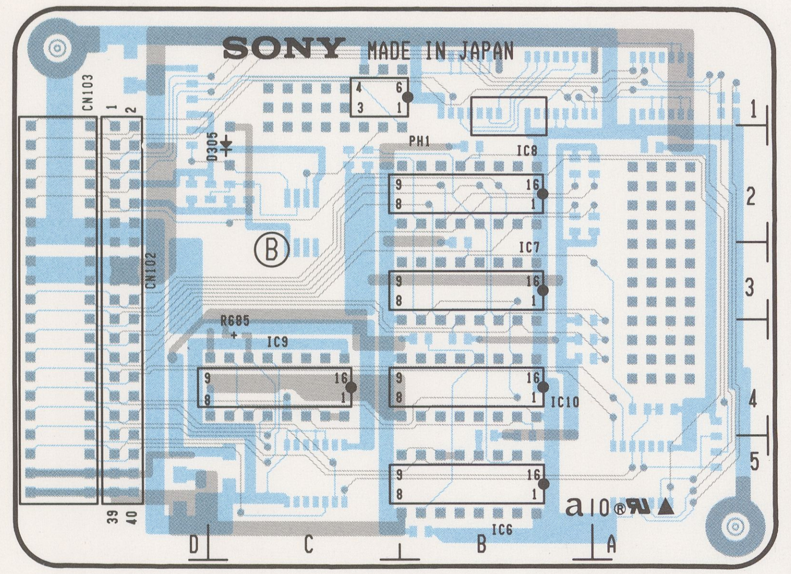
CNI12	J-3	D304	K-5	IC122	G-4	Q301	B-3	S105	D-6
CNI13	J-3			IC123	H-5	Q302	C-3		
CNI14	J-3	FB1	I-1	IC201	G-3			TPE1	I-3
CNI15	J-5	FB2	G-5	IC202	G-2	RB1	K-3	TPE2	H-3
CNI16	J-1	FB202	A-6	IC203	D-4	RB2	K-5	TPE101	B-7
CNI17	J-2	FB203	C-2	IC204	F-1	RB4	J-7	TPE102	G-5
		FB204	C-2	IC205	B-1	RB5	K-4	TPE201	A-1
CN1	A-4	FB205	F-4	IC301	C-3	RB6	K-3	TPE301	H-6
		FB206	F-3	IC302	J-1	RB7	J-2		
D1	H-2	FB207	F-2	IC303	I-5	RB8	I-2	TP1	I-3
D3	H-2	FB208	F-1	IC601	I-3	RB9	I-2	TP2	H-2
D4	K-2	FB210	F-4					TP3	H-1
D101	G-5	FB211	F-4	JW101	A-3	RV1	K-5	TP4	H-3
D102	G-5	FB212	F-3			RV2	H-3	TP5	H-2
D103	C-5	FB213	F-2	Q1	I-2	RV3	G-5	TP6	H-3
D104	C-5			Q2	H-2	RV4	G-5	TP7	K-2
D105	C-5	IC1	J-4	Q3	H-2	RV101	D-5	TP8	H-6
D106	C-5	IC2	J-2	Q4	H-2	RV102	D-5	TP9	H-3
D107	H-5	IC3	I-2	Q5	H-2	RV103	D-6	TP101	F-5
D108	H-5	IC4	H-1	Q6	H-2	RV104	E-5	TP102	F-6
D109	H-5	IC5	I-2	Q8	H-1	RV105	D-5	TP103	D-5
D110	H-5	IC18	J-6	Q10	I-1	RV106	D-6	TP104	E-5
D111	H-5	IC19	I-1	Q101	H-4	RV107	D-6	TP105	D-5
D112	H-5	IC20	I-1	Q102	H-4	RV108	D-6	TP106	D-6
D113	H-5	IC21	K-2	Q103	H-4	RV109	E-6	TP107	E-6
D114	H-5	IC22	K-2	Q104	H-4	RV110	D-6	TP108	D-6
D115	I-4	IC23	H-5	Q201	G-4	RV111	B-5	TP109	E-6
D116	I-4	IC24	K-1	Q202	G-4	RV112	C-5	TP110	D-6
D117	H-4	IC25	J-5	Q203	G-4	RV113	C-6	TP111	B-6
D118	H-4	IC26	I-1	Q204	F-5	RV114	A-5	TP112	C-5
D201	G-4	IC27	H-3	Q205	D-1	RV115	B-5	TP113	C-6
D202	G-4	IC28	J-1	Q206	D-1	RV116	H-4	TP114	B-6
D203	F-4	IC29	J-1	Q207	G-3	RV117	H-4	TP115	B-6
D204	C-1	IC31	H-3	Q208	G-3	RV118	I-5	TP116	H-5
D205	D-1	IC33	I-1	Q209	G-3	RV201	G-4	TP117	G-5
D206	G-3	IC35	J-4	Q210	F-4	RV202	A-1	TP118	F-5
D207	E-3	IC101	H-5	Q211	D-1	RV203	B-1		
D208	C-1	IC102	F-5	Q212	D-1	RV204	D-4	T104	B-5
D209	G-2	IC103	F-6	Q213	G-2	RV205	G-3		
D210	G-2	IC104	F-5	Q214	G-2	RV206	G-2		
D211	E-2	IC105	G-5	Q215	G-2	RV207	G-1		
D212	B-1	IC106	G-6	Q216	F-3	RV208	D-4		
D213	G-1	IC107	G-6	Q217	C-1				
D214	F-1	IC108	H-6	Q218	B-1	S2	K-6		
D215	B-1	IC109	H-5	Q219	G-2	S3	K-4		
D216	D-4	IC111	F-6	Q220	G-1	S4	K-5		
D217	D-4	IC112	H-6	Q221	F-2	S5	K-4		
D218	D-4	IC114	D-5	Q222	C-1	S6	K-3		
D219	D-3	IC115	E-5	Q223	B-1	S7	K-4		
D220	A-2	IC116	E-5	Q224	D-4	S8	K-3		
D221	D-4	IC117	D-6	Q225	D-4	S9	K-4		
D222	C-3	IC118	E-6	Q226	D-4	S101	C-5		
D301	C-3	IC119	E-6	Q227	C-4	S102	C-6		
D302	K-5	IC120	B-5	Q228	D-2	S103	B-4		
D303	K-1	IC121	C-5	Q229	G-1	S104	D-5		

SG-155 BOARD

Serial No. 10401 –



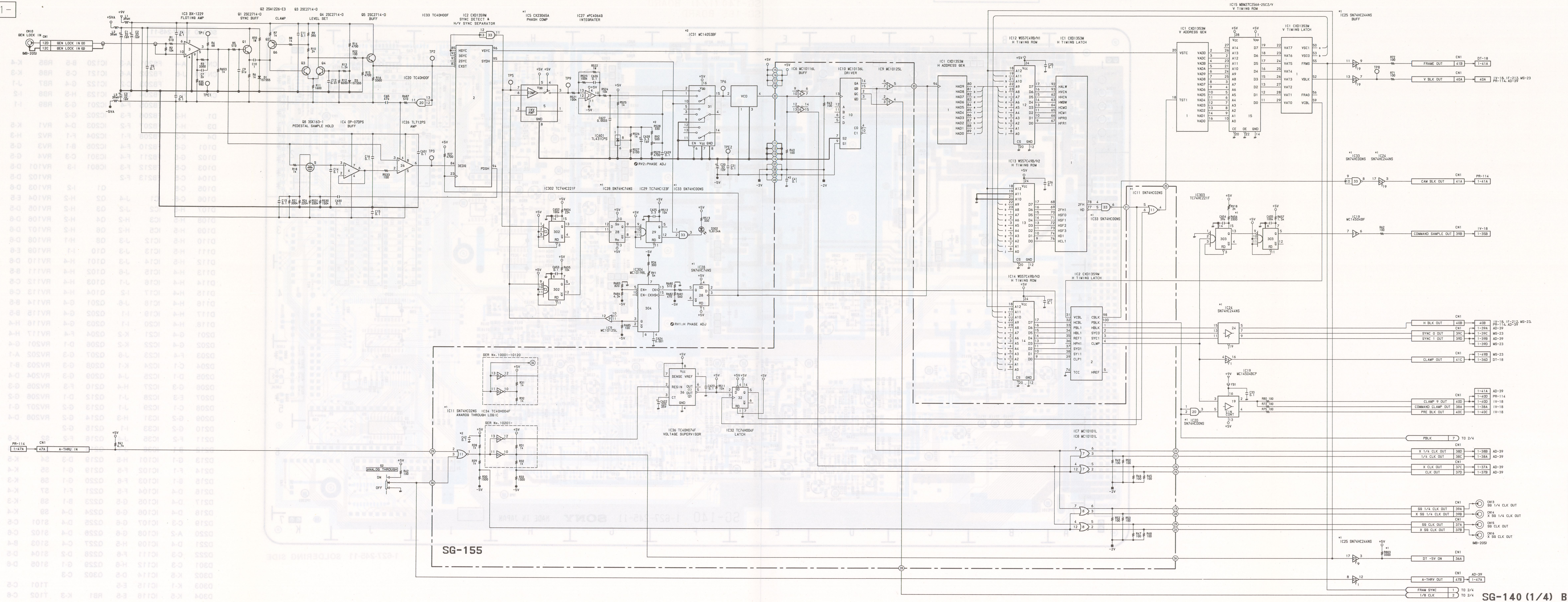
1-628-728-23 COMPONENT SIDE



1-628-728-23 SOLDERING SIDE

SG-140 (1/4) BOARD
SG-155 BOARD

Serial No. 10101-


GEN LOCK IN
IC3 BX-1229 FLOATING AMP
Q1 2SC2714-O SYNC BUFF
Q2 2SA1226-E3 CLAMP
Q3 2SC2714-O LEVEL SET
Q5 2SC2714-O BUFF
IC2 CXD1359N SYNC DETECT & H/V SYNC SEPARATOR
IC5 CX23065A PHASH COMP
IC37 μPC4064G INTEGRATER
IC31 MC14053BF
IC6 MC10116L BUFF
IC10 MC10136L DRIVER
IC9 MC10125L
IC1 CXD1353M H ADDRESS GEN
IC12 M5G7C49L/N1 H TIMING ROM
IC11 CXD1359M H TIMING LATCH
IC1 CXD1353M V ADDRESS GEN
IC15 MB27C256A-25C2/V V TIMING ROM
IC1 CXD1359M V TIMING LATCH
IC25 SN74HC244NS BUFF
Q8 3SK163-1 PEDESTAL SAMPLE HOLD
IC4 OP-07DPS BUFF
IC26 TL712PS AMP
IC36 TC4OH007F VOLTAGE SUPERVISOR
IC32 TC4OH074F LATCH
IC7 MC10101L
IC8 MC10101L
IC24 SN74HC244NS
R72 100
R71 100
R62 100
TP8
CN1
FRAME OUT 41B
DT-18 1-41A
V BLK OUT 40A
40A IV-18, IF-212, MS-23 PR-114, AD-39
CAM BLK OUT 41A
PR-114 1-41A
COMMAND SAMPLE OUT 39B
IV-18 1-35B
H BLK OUT
SYNC 0 OUT
SYNC 1 OUT
CLAMP OUT
CLAMP 0 OUT
COMMAND CLAMP OUT
PRE BLK OUT
PBLK
A-THRU IN
ANALOG THROUGH
SG-155
1
2
3
4
5
6

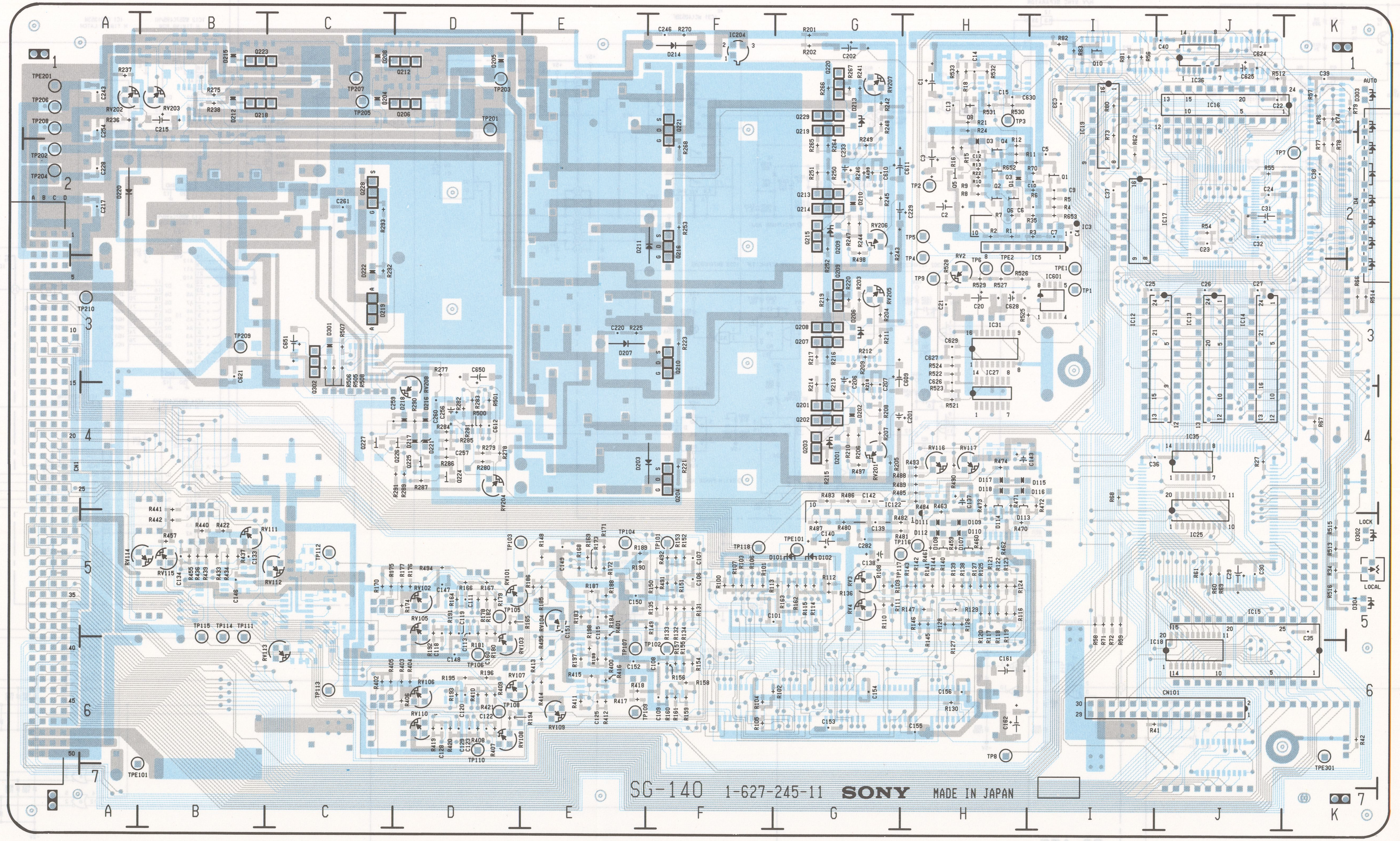
SG-140 (1/4) BOARD
SG-155 (1/2) BOARD

* NOTE

MARK	REF No.	CHANGE INFORMATION	SER No.
*1	IC5	CX23065 → CX23065A	10301-
	IC11 (SG155)	TC74HC02F → SN74HC02NS	
	IC20, 33	TC74HC00F → SN74HC00NS	
	IC24, 25	TC74HC244F → SN74HC244NS	
	IC28	TC74HC74F → SN74HC74NS	
	R656	22K → 3300	
	R803	ADDED	
*2	IC31	TC4053BFHB → MC14053BF	10401-
	C41, 42 (SG155)	ADD	
	R528	750 → 330	

SG-140 BOARD

Serial No. 10001 – 10009



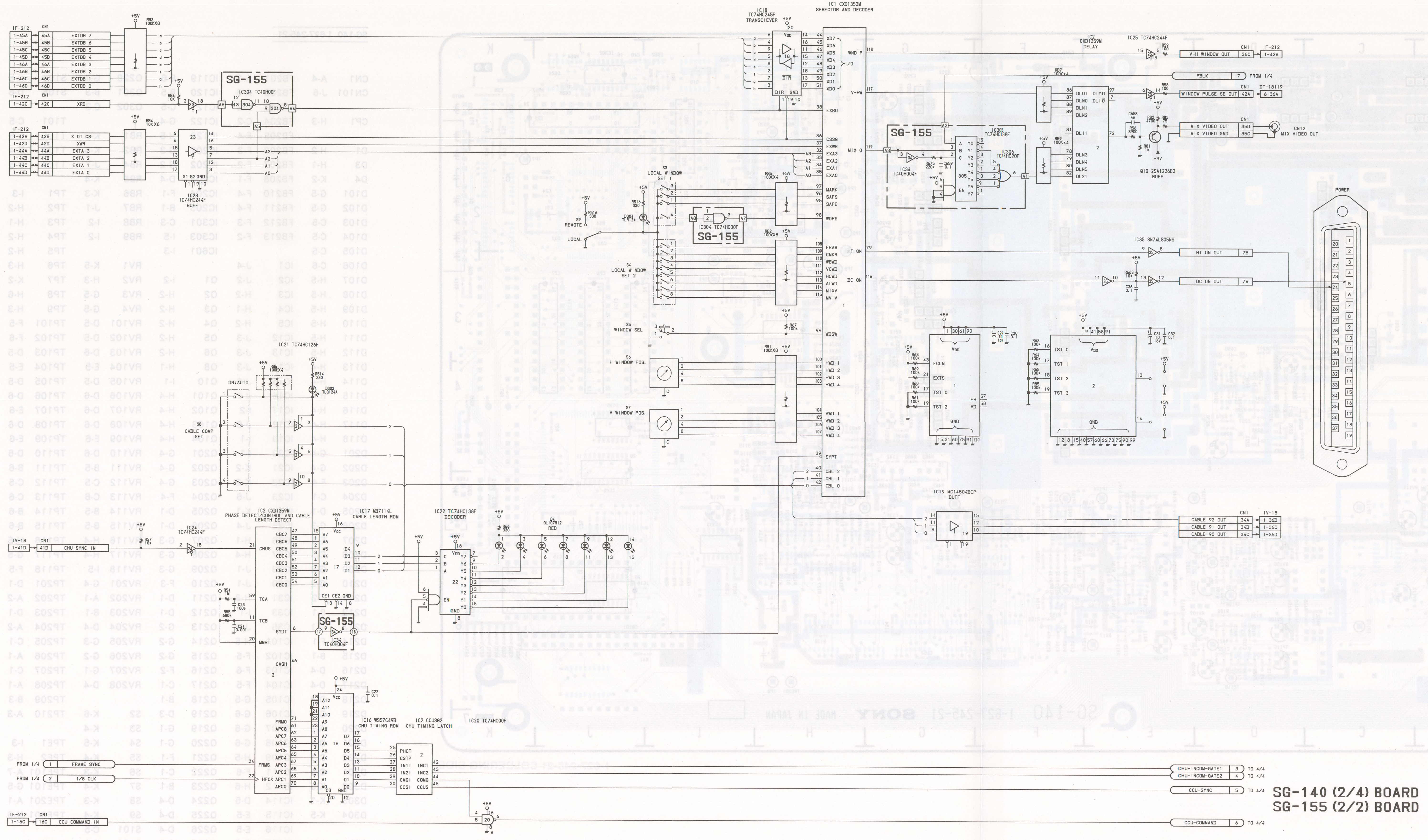
1-627-245-11 SOLDERING SIDE

SG-140 1-627-245-11

CN1	A-4	FB201	A-3	IC120	B-5	RB5	K-4	TP1	I-3
CN101	J-6	FB202	A-6	IC121	C-5	RB6	K-3	TP2	H-2
		FB203	C-2	IC122	G-4	RB7	J-1	TP3	H-1
CP1	H-3	FB204	C-2	IC123	H-5	RB8	I-2	TP4	H-2
		FB205	F-4	IC201	G-3	RB9	I-1	TP5	H-2
D1	H-2	FB206	F-3	IC202	G-2			TP6	H-3
D3	H-1	FB207	F-2	IC203	D-4	RV1	K-5	TP7	K-2
D4	K-2	FB208	F-1	IC204	F-1	RV2	H-3	TP8	H-6
D101	G-5	FB210	F-4	IC205	B-1	RV3	G-5	TP9	H-3
D102	G-5	FB211	F-4	IC301	C-3	RV4	G-5	TP101	F-5
D103	C-5	FB212	F-3	IC601	I-3	RV101	D-5	TP102	F-6
D104	C-5	FB213	F-2			RV102	D-5	TP103	D-5
D105	C-5			Q1	I-2	RV103	D-6	TP104	E-5
D106	C-6	IC1	J-4	Q2	H-2	RV104	E-5	TP105	D-5
D107	H-5	IC2	J-2	Q3	H-2	RV105	D-5	TP106	D-6
D108	H-5	IC3	H-2	Q4	H-2	RV106	D-6	TP107	E-6
D109	H-5	IC5	H-2	Q6	H-2	RV107	D-6	TP108	D-6
D110	H-5	IC12	J-3	Q8	H-1	RV108	D-6	TP109	E-6
D111	H-5	IC13	J-3	Q10	I-1	RV109	E-6	TP110	D-6
D112	H-5	IC14	J-3	Q101	H-4	RV110	D-6	TP111	B-6
D113	H-4	IC15	J-6	Q102	H-4	RV111	B-5	TP112	C-5
D114	H-4	IC16	J-1	Q103	H-4	RV112	C-5	TP113	C-6
D115	H-4	IC17	I-2	Q104	H-4	RV113	C-6	TP114	B-6
D116	H-4	IC18	J-6	Q201	G-4	RV114	B-5	TP115	B-6
D117	H-4	IC19	I-1	Q202	G-4	RV115	B-5	TP116	H-5
D118	H-4	IC20	I-1	Q203	G-4	RV116	H-4	TP117	G-5
D201	G-4	IC21	K-2	Q204	F-4	RV117	H-4	TP118	F-5
D202	G-4	IC22	K-2	Q206	D-1	RV201	G-4	TP201	D-1
D203	F-4	IC23	J-6	Q207	G-3	RV202	A-1	TP202	A-2
D204	C-1	IC24	K-1	Q208	G-3	RV203	B-1	TP203	D-1
D205	D-1	IC25	J-4	Q209	G-3	RV204	D-4	TP204	A-2
D206	G-3	IC27	H-4	Q210	F-3	RV205	G-3	TP205	C-1
D207	E-3	IC28	J-1	Q212	D-1	RV206	G-2	TP206	A-1
D208	C-1	IC29	J-1	Q213	G-2	RV207	G-1	TP207	C-1
D209	G-2	IC31	H-3	Q214	G-2	RV208	D-4	TP208	A-1
D210	G-2	IC33	I-1	Q215	G-2			TP209	B-3
D211	F-2	IC35	J-4	Q216	F-2	S2	K-6	TP210	A-3
D212	B-1	IC36	J-1	Q218	B-1	S3	K-4		
D213	G-1	IC101	H-5	Q219	D-3	S4	K-5	TPE1	I-3
D214	F-1	IC102	F-5	Q219	G-1	S5	K-4	TPE2	H-3
D215	B-1	IC103	F-6	Q220	G-1	S6	K-3	TPE101	A-7
D216	D-4	IC104	F-5	Q221	F-1	S7	K-4	TPE101	G-5
D217	D-4	IC105	G-5	Q223	B-1	S8	K-3	TPE201	A-1
D218	D-4	IC106	G-6	Q224	D-4	S9	K-4	TPE301	K-6
D219	C-3	IC107	G-6	Q225	D-4	S101	C-5		
D220	A-2	IC108	G-6	Q226	D-4	S102	C-6		
D221	D-4	IC109	H-5	Q227	C-4	S103	B-4		
D222	C-3	IC111	F-6	Q228	D-2	S104	D-5		
D301	C-3	IC112	H-6	Q229	G-1	S105	D-6		
D302	K-5	IC114	D-5	Q302	C-3				
D303	K-1	IC115	E-5			T101	C-5		
D304	K-5	IC116	E-5	RB1	K-3	T102	C-6		
		IC117	D-6	RB2	K-5	T103	B-4		
FB1	I-1	IC118	E-6	RB3	K-6	T104	B-5		
FB2	G-5	IC119	E-6	RB4	J-7				

SG-140 (2/4) BOARD

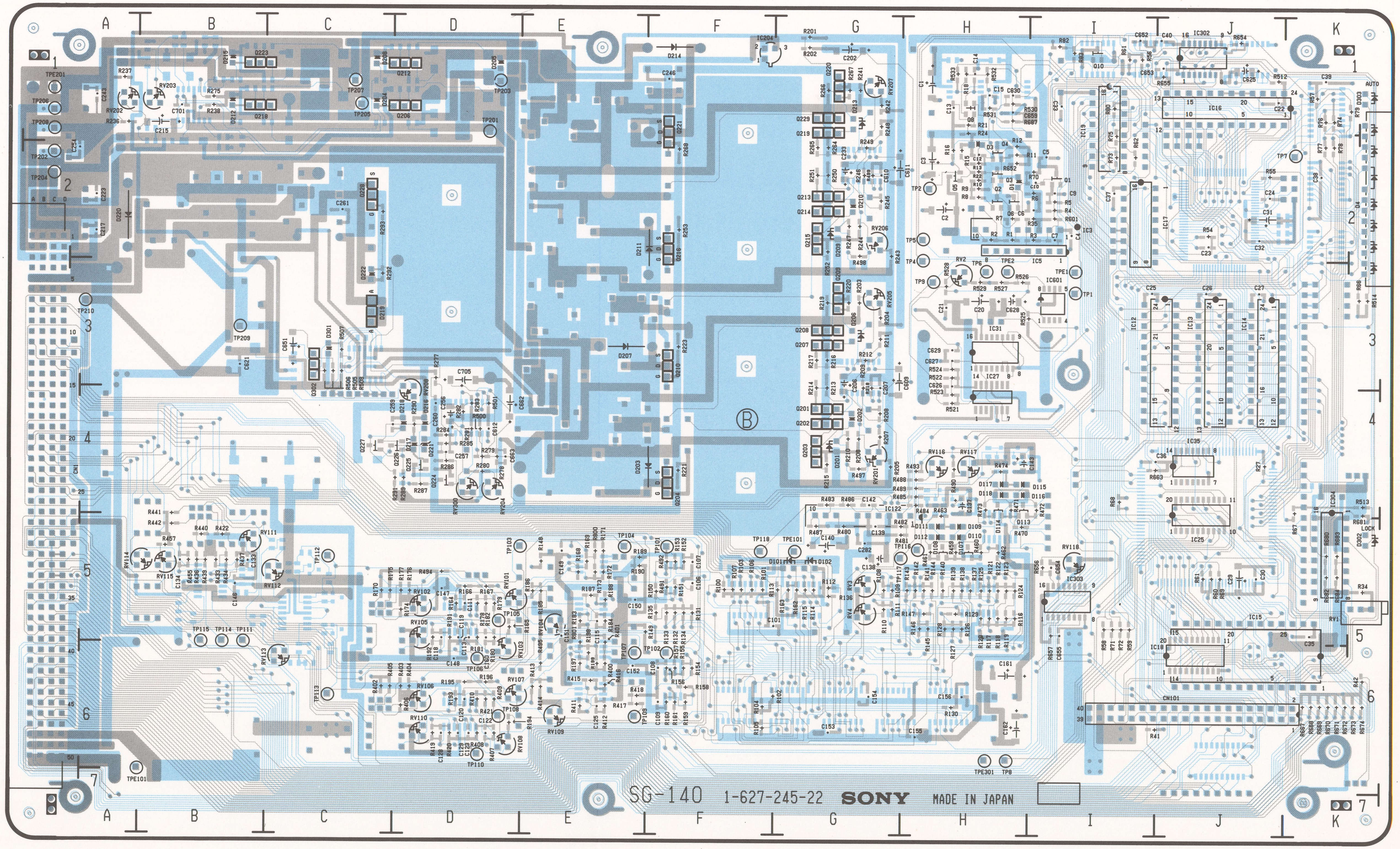
Serial No. 10001-10009


IF-212
CN1
1-45A 45A EXTDB 7
1-45B 45B EXTDB 6
1-45C 45C EXTDB 5
1-45D 45D EXTDB 4
1-46A 46A EXTDB 3
1-46B 46B EXTDB 2
1-46C 46C EXTDB 1
1-46D 46D EXTDB 0
1-42C 42C XRD
1-42A 42B X DT CS
1-42D 42D XWR
1-44A 44A EXTA 3
1-44B 44B EXTA 2
1-44C 44C EXTA 1
1-44D 44D EXTA 0
+5V
RB3 100KX8
RB4 10K
RB4 10K X6
SG-155
IC304 TC40H00F
IC23 TC74HC244F BUFF
IC18 TC74HC245F TRANSCIEVER
IC1 CXD1353M SERECTOR AND DECODER
XD7 XD6 XD5 XD4 XD3 XD2 XD1 XD0
I/O
WND P
V-HW
EXRD
CSSG
EXWR
EXA3 EXA2 EXA1 EXA0
MIX 0
MARK SAFS SAFE WDPS
FRAM
HT ON
BC ON
WDSW
SYPT
CBL 2 CBL 1 CBL 0
IC304 TC74HC00F
IC34 TC40H004F
IC305 TC74HC138F
IC306 TC74HC20F
R675 220k
C659 0.1
IC2 CXD1359M DELAY
RB7 100Kx4
RB9 100Kx4
DL01 DLN0 DLN1 DLN2 DL11 DLN3 DLN4 DLN5 DL21
DLY0 DL10
IC25 TC74HC244F
R59 100
R58 100
V-H WINDOW OUT 36C 1-42A
PBLK 7 FROM 1/4
WINDOW PULSE SE OUT 42A DT-18119 6-36A
C658 4p
R56 3900
R82 4700
R83 75
R81 1k
-9V
Q10 2SA1226E3 BUFF
MIX VIDEO OUT 35D
MIX VIDEO GND 35C
CN12 MIX VIDEO OUT
POWER
IC35 SN74LS05NS
HT ON OUT 7B
DC ON OUT 7A
S3 LOCAL WINDOW SET 1
S4 LOCAL WINDOW SET 2
S9 REMOTE LOCAL
S5 WINDOW SEL
S6 H WINDOW POS.
S7 V WINDOW POS.
IC21 TC74HC126F
S8 CABLE COMP SET
ON:AUTO
IC19 MC14504BCP BUFF
CABLE 92 OUT 34A 1-36B
CABLE 91 OUT 34B 1-36C
CABLE 90 OUT 34C 1-36D
IV-18
1-41D 41D CHU SYNC IN
IC24 TC74HC244F
IC3 CXD1359M PHASE DETECT/CONTROL AND CABLE LENGTH DETECT
IC17 MB7114L CABLE LENGTH ROM
IC22 TC74HC138F DECODER
D4 GL1S7R12 RED
SG-155 IC34 TC40H004F
IC16 M5S7C49B CHU TIMING ROM
IC2 CCUSG2 CHU TIMING LATCH
IC20 TC74HC00F
FROM 1/4 1 FRAME SYNC
FROM 1/4 2 1/8 CLK
IF-212 1-16C 16C CCU COMMAND IN
CHU-INCOM-GATE1 3 TO 4/4
CHU-INCOM-GATE2 4 TO 4/4
CCU-SYNC 5 TO 4/4
CCU-COMMAND 6 TO 4/4
1 2 3 4 5 6

SG-140 (2/4) BOARD
SG-155 (2/2) BOARD

SG-140 BOARD

Serial No. 10201 – 10310



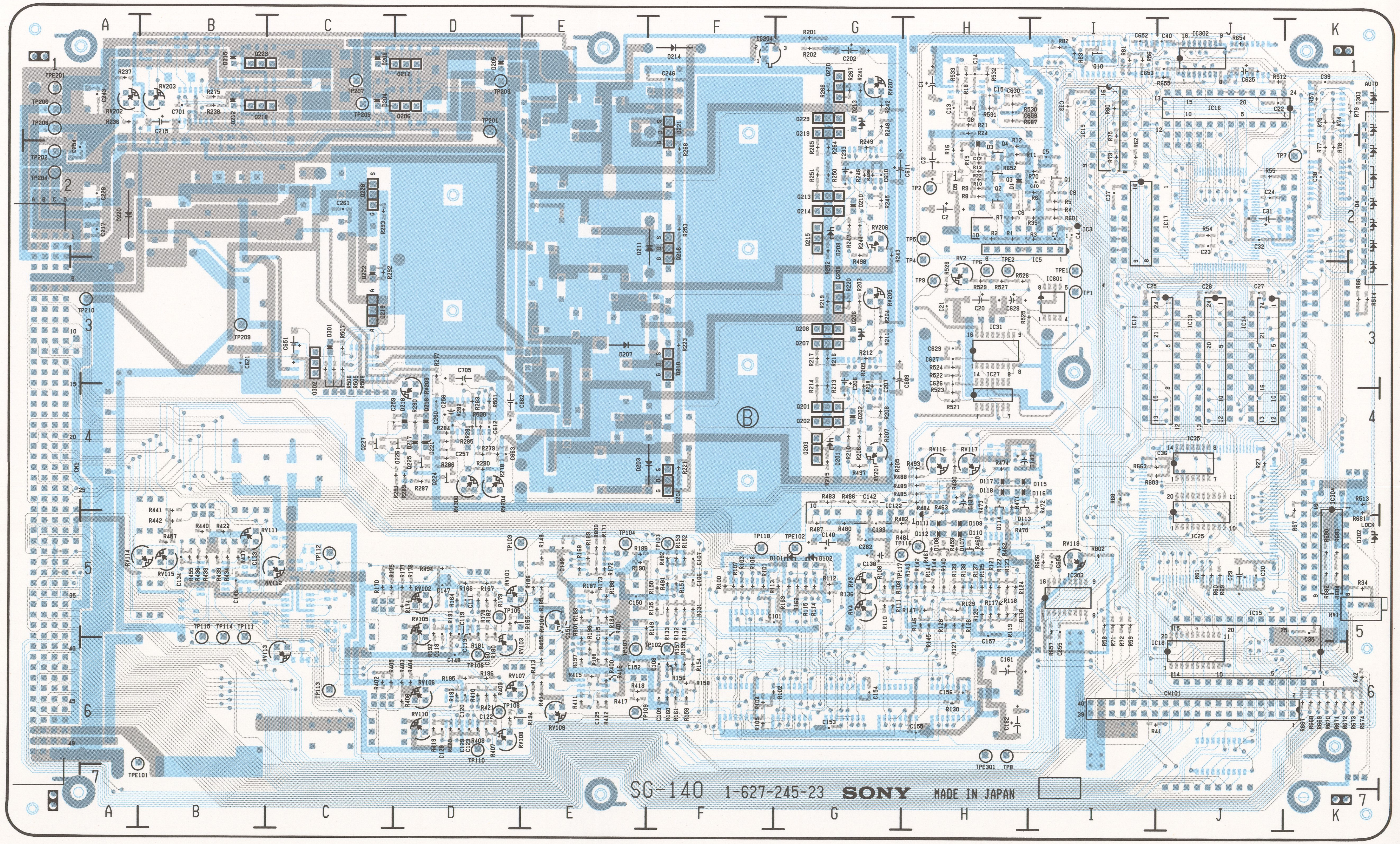
1-627-245-22 SOLDERING SIDE

SG-140 1-627-245-22

CNI12	J-3	D304	K-5	IC122	G-4	Q301	B-3	S105	D-6
CNI13	J-3			IC123	H-5	Q302	C-3		
CNI14	J-3	FB1	I-1	IC201	G-3			TPE1	I-3
CNI15	J-5	FB2	G-5	IC202	G-2	RB1	K-3	TPE2	H-3
CNI16	J-1	FB202	A-6	IC203	D-4	RB2	K-5	TPE101	B-7
CNI17	J-2	FB203	C-2	IC204	F-1	RB4	J-7	TPE102	G-5
		FB204	C-2	IC205	B-1	RB5	K-4	TPE201	A-1
CN1	A-4	FB205	F-4	IC301	C-3	RB6	K-3	TPE301	H-6
		FB206	F-3	IC302	J-1	RB7	J-2		
D1	H-2	FB207	F-2	IC303	I-5	RB8	I-2	TP1	I-3
D3	H-2	FB208	F-1	IC601	I-3	RB9	I-2	TP2	H-2
D4	K-2	FB210	F-4					TP3	H-1
D101	G-5	FB211	F-4	JW101	A-3	RV1	K-5	TP4	H-3
D102	G-5	FB212	F-3			RV2	H-3	TP5	H-2
D103	C-5	FB213	F-2	Q1	I-2	RV3	G-5	TP6	H-3
D104	C-5			Q2	H-2	RV4	G-5	TP7	K-2
D105	C-5	IC1	J-4	Q3	H-2	RV101	D-5	TP8	H-6
D106	C-5	IC2	J-2	Q4	H-2	RV102	D-5	TP9	H-3
D107	H-5	IC3	I-2	Q5	H-2	RV103	D-6	TP101	F-5
D108	H-5	IC4	H-1	Q6	H-2	RV104	E-5	TP102	F-6
D109	H-5	IC5	I-2	Q8	H-1	RV105	D-5	TP103	D-5
D110	H-5	IC18	J-6	Q10	I-1	RV106	D-6	TP104	E-5
D111	H-5	IC19	I-1	Q101	H-4	RV107	D-6	TP105	D-5
D112	H-5	IC20	I-1	Q102	H-4	RV108	D-6	TP106	D-6
D113	H-5	IC21	K-2	Q103	H-4	RV109	E-6	TP107	E-6
D114	H-5	IC22	K-2	Q104	H-4	RV110	D-6	TP108	D-6
D115	I-4	IC23	H-5	Q201	G-4	RV111	B-5	TP109	E-6
D116	I-4	IC24	K-1	Q202	G-4	RV112	C-5	TP110	D-6
D117	H-4	IC25	J-5	Q203	G-4	RV113	C-6	TP111	B-6
D118	H-4	IC26	I-1	Q204	F-5	RV114	A-5	TP112	C-5
D201	G-4	IC27	H-3	Q205	D-1	RV115	B-5	TP113	C-6
D202	G-4	IC28	J-1	Q206	D-1	RV116	H-4	TP114	B-6
D203	F-4	IC29	J-1	Q207	G-3	RV117	H-4	TP115	B-6
D204	C-1	IC31	H-3	Q208	G-3	RV118	I-5	TP116	H-5
D205	D-1	IC33	I-1	Q209	G-3	RV201	G-4	TP117	G-5
D206	G-3	IC35	J-4	Q210	F-4	RV202	A-1	TP118	F-5
D207	E-3	IC101	H-5	Q211	D-1	RV203	B-1		
D208	C-1	IC102	F-5	Q212	D-1	RV204	D-4	T104	B-5
D209	G-2	IC103	F-6	Q213	G-2	RV205	G-3		
D210	G-2	IC104	F-5	Q214	G-2	RV206	G-2		
D211	E-2	IC105	G-5	Q215	G-2	RV207	G-1		
D212	B-1	IC106	G-6	Q216	F-3	RV208	D-4		
D213	G-1	IC107	G-6	Q217	C-1				
D214	F-1	IC108	H-6	Q218	B-1	S2	K-6		
D215	B-1	IC109	H-5	Q219	G-2	S3	K-4		
D216	D-4	IC111	F-6	Q220	G-1	S4	K-5		
D217	D-4	IC112	H-6	Q221	F-2	S5	K-4		
D218	D-4	IC114	D-5	Q222	C-1	S6	K-3		
D219	D-3	IC115	E-5	Q223	B-1	S7	K-4		
D220	A-2	IC116	E-5	Q224	D-4	S8	K-3		
D221	D-4	IC117	D-6	Q225	D-4	S9	K-4		
D222	C-3	IC118	E-6	Q226	D-4	S101	C-5		
D301	C-3	IC119	E-6	Q227	C-4	S102	C-6		
D302	K-5	IC120	B-5	Q228	D-2	S103	B-4		
D303	K-1	IC121	C-5	Q229	G-1	S104	D-5		

SG-140 BOARD

Serial No. 10401 –



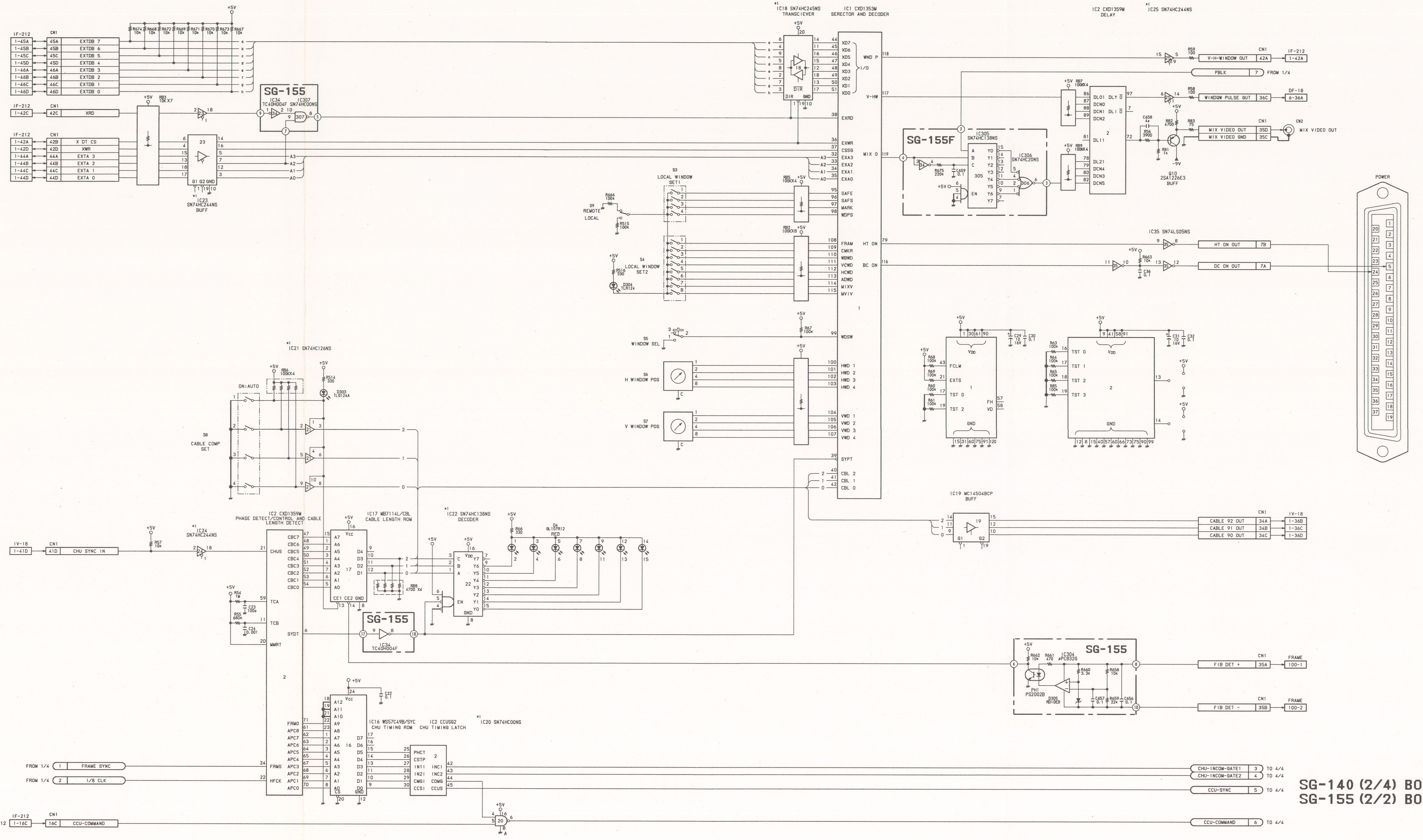
1-627-245-23 SOLDERING SIDE

SG-140 1-627-245-23

CNI12	J-3	D304	K-5	IC122	G-4	Q301	B-3	S105	D-6
CNI13	J-3			IC123	H-5	Q302	C-3		
CNI14	J-3	FB1	I-1	IC201	G-3			TPE1	I-3
CNI15	J-5	FB2	G-5	IC202	G-2	RB1	K-3	TPE2	H-3
CNI16	J-1	FB202	A-6	IC203	D-4	RB2	K-5	TPE101	B-7
CNI17	J-2	FB203	C-2	IC204	F-1	RB4	J-7	TPE102	G-5
		FB204	C-2	IC205	B-1	RB5	K-4	TPE201	A-1
CN1	A-4	FB205	F-4	IC301	C-3	RB6	K-3	TPE301	H-6
		FB206	F-3	IC302	J-1	RB7	J-2		
D1	H-2	FB207	F-2	IC303	I-5	RB8	I-2	TP1	I-3
D3	H-2	FB208	F-1	IC601	I-3	RB9	I-2	TP2	H-2
D4	K-2	FB210	F-4					TP3	H-1
D101	G-5	FB211	F-4	JW101	A-3	RV1	K-5	TP4	H-3
D102	G-5	FB212	F-3			RV2	H-3	TP5	H-2
D103	C-5	FB213	F-2	Q1	I-2	RV3	G-5	TP6	H-3
D104	C-5			Q2	H-2	RV4	G-5	TP7	K-2
D105	C-5	IC1	J-4	Q3	H-2	RV101	D-5	TP8	H-6
D106	C-5	IC2	J-2	Q4	H-2	RV102	D-5	TP9	H-3
D107	H-5	IC3	I-2	Q5	H-2	RV103	D-6	TP101	F-5
D108	H-5	IC4	H-1	Q6	H-2	RV104	E-5	TP102	F-6
D109	H-5	IC5	I-2	Q8	H-1	RV105	D-5	TP103	D-5
D110	H-5	IC18	J-6	Q10	I-1	RV106	D-6	TP104	E-5
D111	H-5	IC19	I-1	Q101	H-4	RV107	D-6	TP105	D-5
D112	H-5	IC20	I-1	Q102	H-4	RV108	D-6	TP106	D-6
D113	H-5	IC21	K-2	Q103	H-4	RV109	E-6	TP107	E-6
D114	H-5	IC22	K-2	Q104	H-4	RV110	D-6	TP108	D-6
D115	I-4	IC23	H-5	Q201	G-4	RV111	B-5	TP109	E-6
D116	I-4	IC24	K-1	Q202	G-4	RV112	C-5	TP110	D-6
D117	H-4	IC25	J-5	Q203	G-4	RV113	C-6	TP111	B-6
D118	H-4	IC26	I-1	Q204	F-5	RV114	A-5	TP112	C-5
D201	G-4	IC27	H-3	Q205	D-1	RV115	B-5	TP113	C-6
D202	G-4	IC28	J-1	Q206	D-1	RV116	H-4	TP114	B-6
D203	F-4	IC29	J-1	Q207	G-3	RV117	H-4	TP115	B-6
D204	C-1	IC31	H-3	Q208	G-3	RV118	I-5	TP116	H-5
D205	D-1	IC33	I-1	Q209	G-3	RV201	G-4	TP117	G-5
D206	G-3	IC35	J-4	Q210	F-4	RV202	A-1	TP118	F-5
D207	E-3	IC101	H-5	Q211	D-1	RV203	B-1		
D208	C-1	IC102	F-5	Q212	D-1	RV204	D-4	T104	B-5
D209	G-2	IC103	F-6	Q213	G-2	RV205	G-3		
D210	G-2	IC104	F-5	Q214	G-2	RV206	G-2		
D211	E-2	IC105	G-5	Q215	G-2	RV207	G-1		
D212	B-1	IC106	G-6	Q216	F-3	RV208	D-4		
D213	G-1	IC107	G-6	Q217	C-1				
D214	F-1	IC108	H-6	Q218	B-1	S2	K-6		
D215	B-1	IC109	H-5	Q219	G-2	S3	K-4		
D216	D-4	IC111	F-6	Q220	G-1	S4	K-5		
D217	D-4	IC112	H-6	Q221	F-2	S5	K-4		
D218	D-4	IC114	D-5	Q222	C-1	S6	K-3		
D219	D-3	IC115	E-5	Q223	B-1	S7	K-4		
D220	A-2	IC116	E-5	Q224	D-4	S8	K-3		
D221	D-4	IC117	D-6	Q225	D-4	S9	K-4		
D222	C-3	IC118	E-6	Q226	D-4	S101	C-5		
D301	C-3	IC119	E-6	Q227	C-4	S102	C-6		
D302	K-5	IC120	B-5	Q228	D-2	S103	B-4		
D303	K-1	IC121	C-5	Q229	G-1	S104	D-5		

SG-140 (2/4) BOARD

Serial No. 10101-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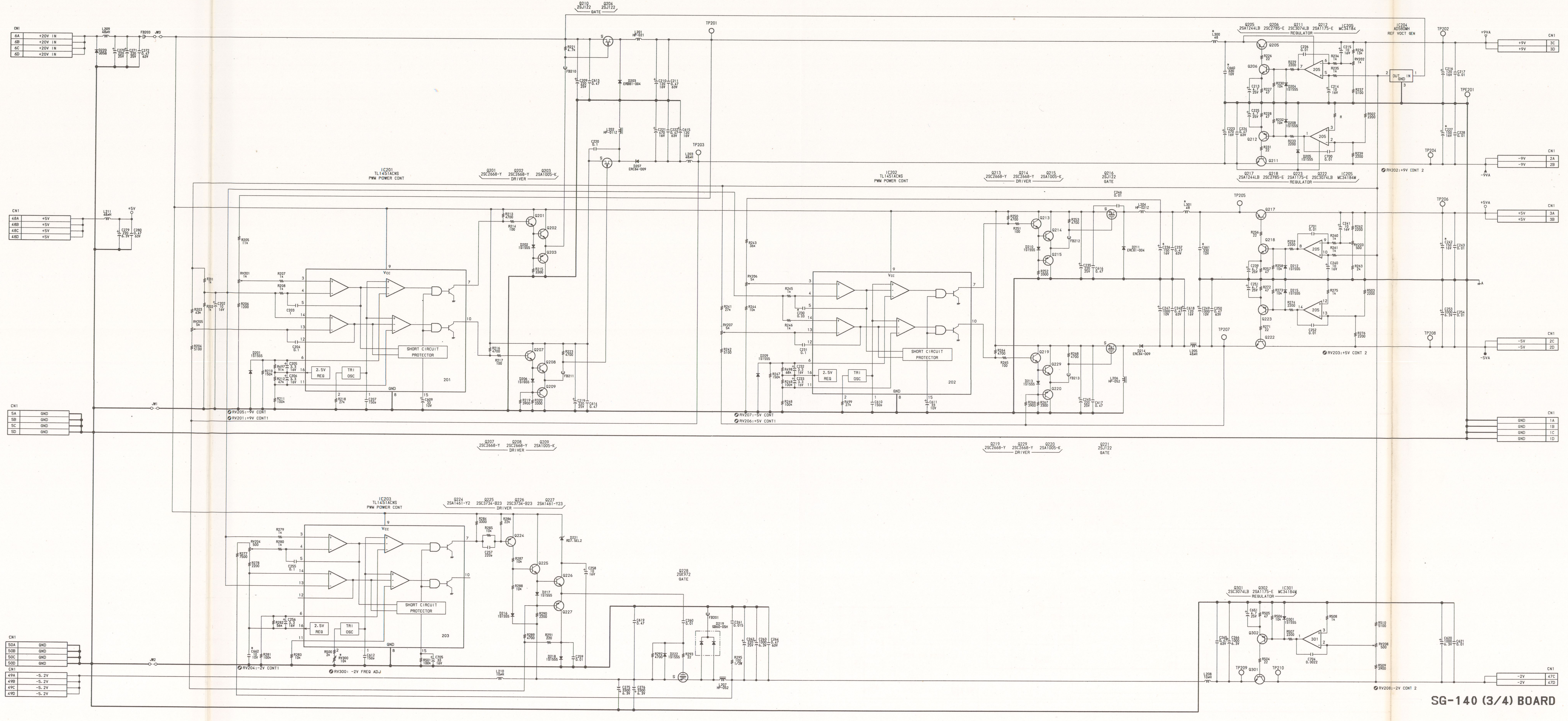
CN1
EXTDB 7
EXTDB 6
EXTDB 5
EXTDB 4
EXTDB 3
EXTDB 2
EXTDB 1
EXTDB 0
XRD
X DT CS
XWR
EXTA 3
EXTA 2
EXTA 1
EXTA 0
RB3 10K X7
IC23 SN74HC244NS BUFF
SG-155
IC34 TC40H004F
IC307 SN74HC00NS
IC18 SN74HC245NS TRANSCIEVER
IC1 CXD1353M SERECTOR AND DECODER
IC2 CXD1359M DELAY
IC25 SN74HC244NS
SG-155F
IC305 SN74HC138NS
IC306 SN74HC20NS
V-H-WINDOW OUT
PBLK
FROM 1/4
WINDOW PULSE OUT
DF-18
MIX VIDEO OUT
MIX VIDEO GND
CN2
Q10 2SA1226E3 BUFF
POWER
LOCAL WINDOW SET1
LOCAL WINDOW SET2
REMOTE
LOCAL
WINDOW SEL
H WINDOW POS
V WINDOW POS
IC35 SN74LS05NS
HT ON OUT
DC ON OUT
IC21 SN74HC126NS
ON/AUTO
CABLE COMP SET
IC19 MC14504BCP BUFF
CABLE 92 OUT
CABLE 91 OUT
CABLE 90 OUT
IV-18
IC24 SN74HC244NS
CHU SYNC IN
IC2 CXD1359M PHASE DETECT/CONTROL AND CABLE LENGTH DETECT
IC17 MB7114L/CBL CABLE LENGTH ROM
IC22 SN74HC138NS DECODER
D4 GL107R12 RED
IC16 WS57C49B/SYC CHU TIMING ROM
IC2 CCUSG2 CHU TIMING LATCH
IC20 SN74HC00NS
FRAME SYNC
1/8 CLK
FROM 1/4
CCU-COMMAND
PH1 PS2002B
FIB DET +
FIB DET −
FRAME
CHU-INCOM-GATE1
CHU-INCOM-GATE2
CCU-SYNC
CCU-COMMAND
TO 4/4

* NOTE

MARK	REF No.	CHANGE INFORMATION	SER No.
*1	IC18	TC74HC245F → SN74HC245NS	10301-
	IC20	TC74HC00F → SN74HC00NS	
	IC21	TC74HC126F → SN74HC126NS	
	IC22	TC74HC138F → SN74HC138NS	
	IC23 IC24 IC25	TC74HC244F → SN74HC244NS	

SG-140 (2/4) BOARD
SG-155 (2/2) BOARD

SG-140 (3/4) BOARD


CN1
+20V IN
+5V
GND
-5.2V
IC201
TL1451ACNS
PWM POWER CONT
IC202
TL1451ACNS
PWM POWER CONT
IC203
TL1451ACNS
PWM POWER CONT
DRIVER
GATE
REGULATOR
SHORT CIRCUIT PROTECTOR
2.5V REG
TRI OSC
+9V
-9V
+5V
-5V
-2V
GND
1
2
3
4
5
6

SG-140 (3/4) BOARD

*NOTE

REF No.	CHANGE INFORMATION	SER No.
C230	0.1 → 0.33	10101-
C227 C236	120 → 150 16V 16V	
C242	1000 → 150 6.3V 16V	
C660 C661 C662	ADD	
L300 L301	ADD	
RV300	ADD	

SG-140 (4/4) BOARD

CONTROL UNIT CN906
EXT VIEW
FROM IO-4
CCU COMMAND
CCU SYNC
CHU INCOM GATE1
CHU INCOM GATE2
CHU TALK1 IN
CHU TALK2 IN
SYNC DET
CP TALK1 IN
CP TALK2 IN
PGM IN
ENG IN
PD IN
COMMON/V PRIV IN
CN260 INCOM/TALLY/PGM (MALE) -EXTERNAL SIDE-
RV111:PGM LEVEL
RV105:4W ENG RECIEVE ADJ
RV110:4W PD RECIEVE ADJ
RV106:RTS PD OUT ADJ
RV107:PD SIDE TONE ADJ
RV108:PD LEVEL
RV109:4W PD OUT ADJ
COMMAND/INCOM OUT
COMMAND/INCOM GND
CN11 COMMAND/INCOM OUT
CONTROL UNIT CN300
EXT VIEW
CP REC1 OUT
CP REC2 OUT
ENG OUT
RTS ENG IN/OUT
RTS COMMON
PD OUT
RTS PD IN/OUT
CN250 INCOM/TALLY/PGM (MALE) -EXTERNAL SIDE-
CN260 (MALE) -WIRING SIDE-
CN270 (FEMALE) -EXT SIDE-
LINE IN
LINE OUT

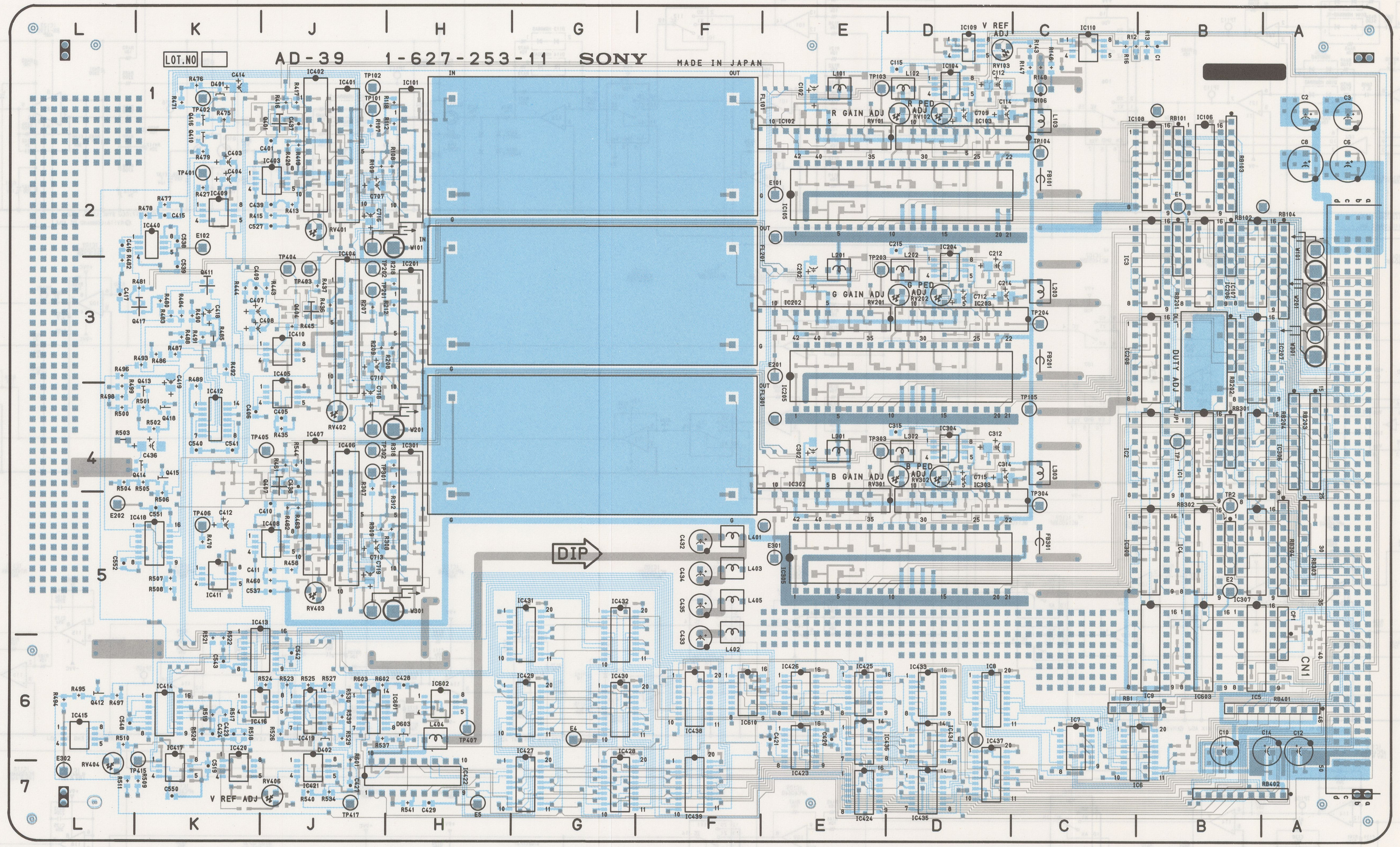
* NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	R443 R447	47K → 4700	10101-
	R462 R470	6200 → 10K	
*2	FB2	ADD	10401-
	IC106 IC107 IC108 IC111 IC112	TC4053BFHB → MC14053BF	
	TPE2	ADD	

SG-140 (4/4) BOARD

AD-39 BOARD

Serial No. 10001 – 10120



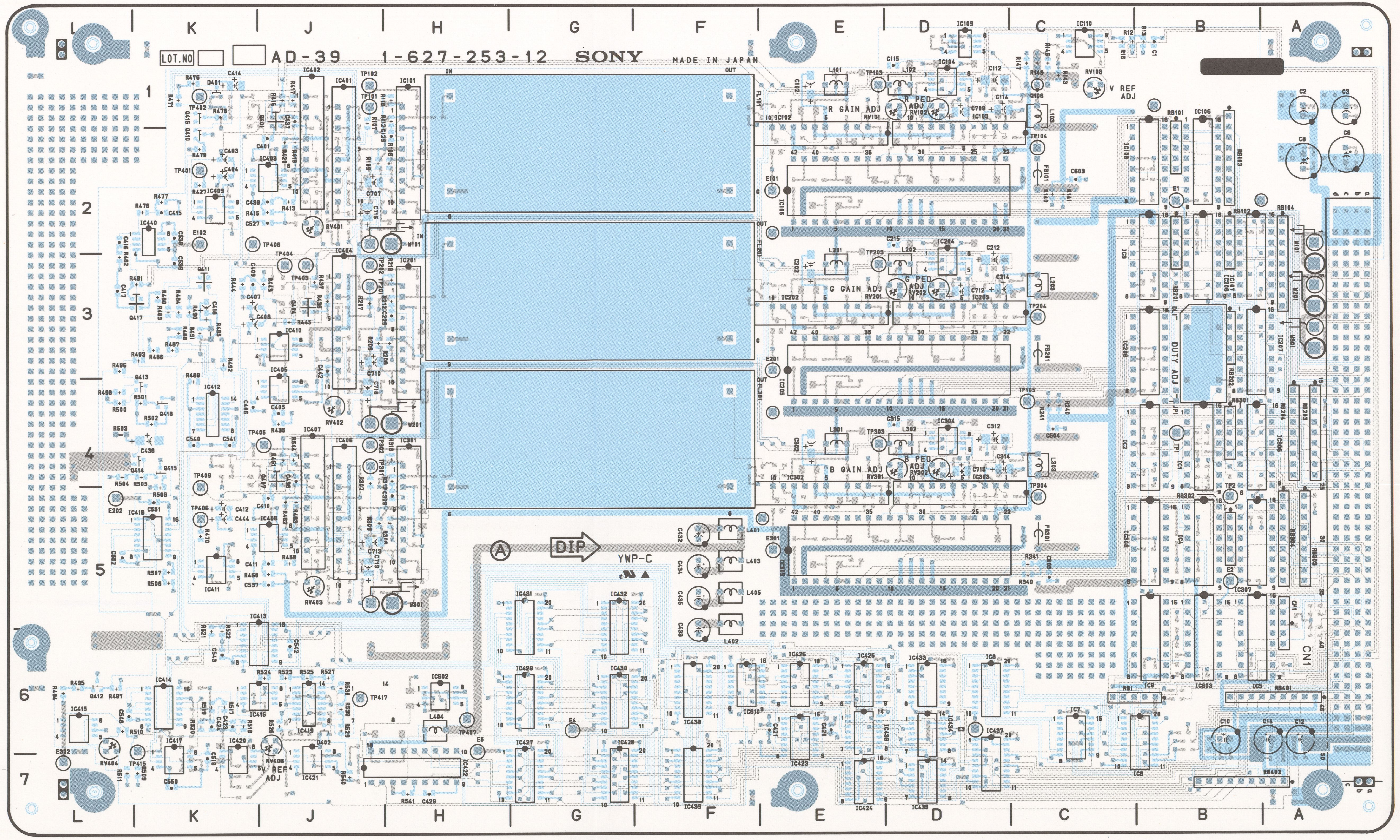
1-627-253-11 COMPONENT SIDE

AD-39 1-627-253-11

CN1	A-4	IC205	D-3	Q101	J-2	RV202	D-3
		IC206	B-3	Q102	H-2	RV301	D-4
CP1	A-5	IC207	B-3	Q103	H-2	RV302	D-4
		IC208	B-3	Q104	E-2	RV401	J-2
D401	K-1	IC301	H-5	Q105	D-2	RV402	J-4
D402	J-6	IC302	E-5	Q106	C-1	RV403	J-5
D601	J-6	IC303	D-5	Q107	D-1	RV404	L-7
D602	J-6	IC304	D-4	Q202	H-4	RV406	J-7
D603	H-6	IC305	D-5	Q203	H-4		
		IC306	B-4	Q204	E-3	TP1	B-4
DL1	B-3	IC307	B-5	Q205	D-3	TP2	B-5
		IC308	B-5	Q207	D-3	TP101	J-1
E1	B-2	IC401	J-2	Q301	J-5	TP102	J-1
E2	B-5	IC402	J-2	Q302	H-5	TP103	E-1
E3	D-6	IC403	J-2	Q303	H-5	TP104	C-2
E4	G-6	IC404	J-3	Q304	E-5	TP105	C-4
E5	H-7	IC405	J-4	Q305	D-5	TP201	J-3
E101	E-2	IC406	J-5	Q307	D-4	TP202	J-3
E102	K-2	IC407	J-5	Q401	J-1	TP203	E-3
E201	E-3	IC408	J-5	Q402	J-1	TP204	C-3
E202	L-5	IC409	K-2	Q403	J-1	TP301	J-4
E301	E-5	IC410	J-3	Q404	J-3	TP302	J-4
E302	L-7	IC411	K-5	Q407	J-4	TP303	E-4
		IC412	K-4	Q408	J-4	TP304	C-5
FB101	C-2	IC413	J-6	Q409	J-4	TP401	K-2
FB201	C-3	IC414	K-6	Q410	K-2	TP402	K-1
FB301	C-5	IC415	L-6	Q411	K-3	TP403	J-3
		IC416	J-6	Q412	L-6	TP404	J-3
FL101	G-2	IC417	K-7	Q413	K-4	TP405	J-4
FL201	G-3	IC418	K-5	Q414	K-4	TP406	K-5
FL301	G-4	IC419	J-6	Q415	K-4	TP407	H-6
		IC420	K-7	Q416	K-1	TP415	K-6
IC1	B-4	IC421	J-7	Q417	K-3	TP417	J-7
IC2	B-4	IC422	H-7	Q418	K-4		
IC3	B-3	IC423	E-6				
IC4	B-5	IC424	E-7	RB1	B-6		
IC5	B-6	IC425	E-6	RB101	B-2		
IC6	B-6	IC426	E-6	RB102	B-2		
IC7	C-6	IC427	G-7	RB103	B-2		
IC8	D-6	IC428	G-7	RB104	A-3		
IC9	B-6	IC429	G-6	RB201	B-2		
IC101	H-2	IC430	G-6	RB202	B-3		
IC102	E-2	IC431	G-5	RB203	A-4		
IC103	D-2	IC432	G-5	RB204	A-4		
IC104	D-1	IC434	D-6	RB301	B-4		
IC105	D-2	IC435	D-7	RB302	B-5		
IC106	B-2	IC436	E-6	RB303	A-5		
IC107	B-3	IC437	D-7	RB304	A-5		
IC108	B-2	IC438	F-6	RB401	A-6		
IC109	D-1	IC439	F-7	RB402	B-7		
IC110	C-1	IC443	D-6				
IC201	H-3	IC601	J-6	RV101	D-1		
IC202	E-3	IC602	H-6	RV102	D-1		
IC203	D-3	IC603	B-6	RV103	D-1		
IC204	D-3	IC610	F-6	RV201	D-3		

AD-39 BOARD

Serial No. 10201 –

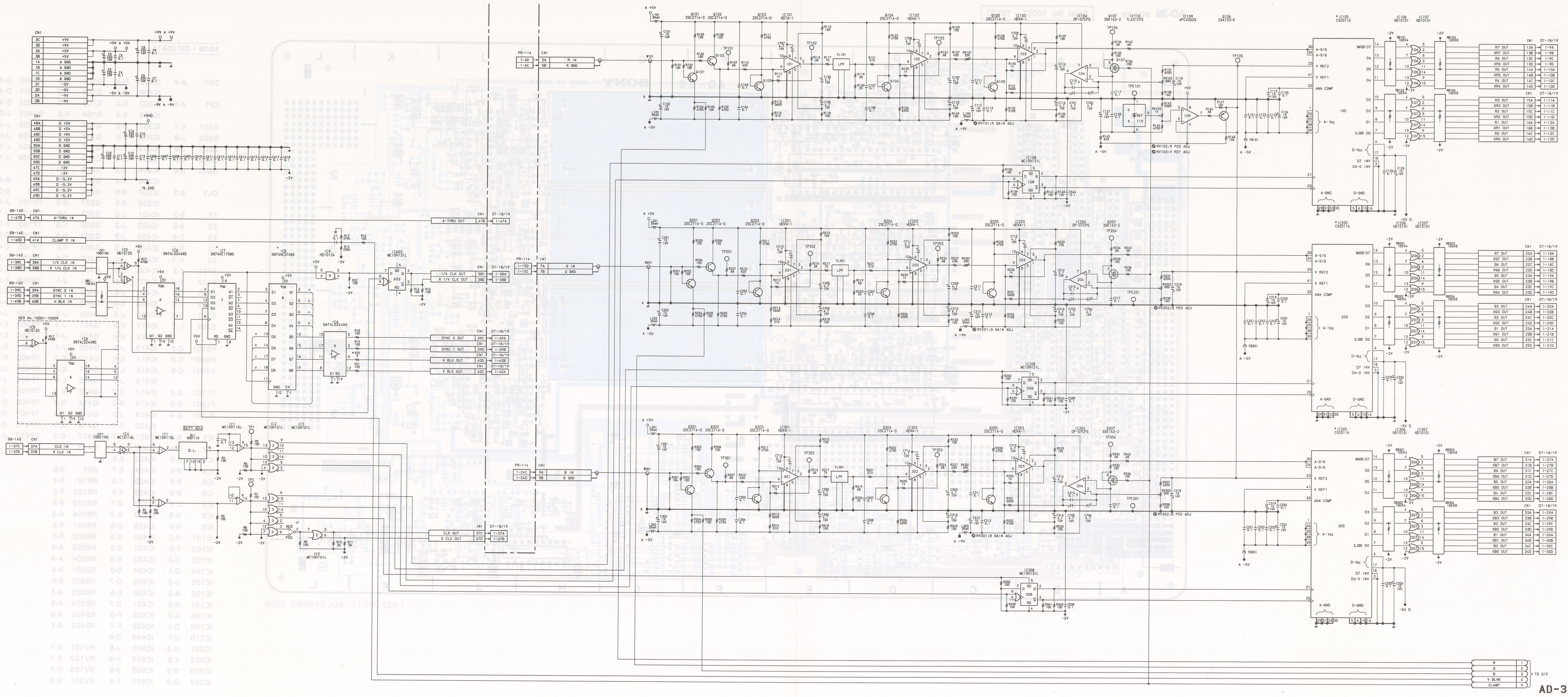


1-627-253-12 COMPONENT SIDE

AD-39 1-627-253-12

CNI105	E-2	IC201	H-3	IC440	K-2	RB401	A-6
CNI205	E-4	IC202	E-3	IC602	H-6	RB402	B-7
CNI305	E-5	IC203	D-3	IC603	B-6		
CNI422	H-7	IC204	D-2	IC610	F-6	RV101	E-1
		IC205	E-4	Q101	J-2	RV102	D-1
CN1	A-6	IC206	B-3	Q102	H-2	RV103	C-1
		IC207	A-3	Q103	H-2	RV201	E-3
CP1	A-5	IC208	C-3	Q104	E-2	RV202	D-3
		IC301	H-4	Q105	D-2	RV301	E-4
DL1	B-3	IC302	E-4	Q106	C-1	RV302	D-4
		IC303	D-4	Q107	D-1	RV401	J-2
D401	K-1	IC304	D-4	Q201	J-3	RV402	J-4
D402	J-6	IC305	E-5	Q202	H-4	RV403	J-5
D601	J-6	IC306	A-4	Q203	H-4	RV404	L-7
D602	J-6	IC307	B-5	Q204	E-3	RV406	J-7
		IC308	C-5	Q205	D-3		
E1	B-2	IC401	J-1	Q207	D-2	TP1	B-4
E2	B-5	IC402	J-1	Q301	J-5	TP2	B-4
E3	D-6	IC403	J-2	Q302	H-5	TP101	J-1
E4	G-6	IC404	J-2	Q303	H-5	TP102	J-1
E5	H-6	IC405	J-3	Q304	E-5	TP103	E-1
E101	E-2	IC406	J-4	Q305	D-5	TP104	C-2
E102	K-2	IC407	J-4	Q307	D-4	TP105	C-4
E201	E-2	IC408	J-5	Q401	J-1	TP201	J-3
E202	L-5	IC409	K-2	Q402	J-2	TP202	J-3
E301	E-5	IC410	J-3	Q403	K-2	TP203	E-2
E302	L-6	IC411	K-5	Q404	J-3	TP204	C-3
		IC412	K-4	Q405	J-3	TP301	J-4
FB101	C-2	IC413	K-5	Q406	J-3	TP302	J-4
FB201	C-3	IC414	K-6	Q407	J-4	TP303	E-4
FB301	C-5	IC415	L-6	Q408	J-5	TP304	C-4
		IC416	K-6	Q409	J-5	TP401	K-2
FL101	F-1	IC417	K-6	Q410	K-2	TP402	K-1
FL201	E-2	IC418	K-5	Q411	K-3	TP403	J-3
FL301	E-4	IC419	J-6	Q412	L-6	TP404	J-3
		IC420	K-6	Q413	K-3	TP405	J-4
IC1	B-4	IC421	J-7	Q414	K-4	TP406	K-5
IC2	C-4	IC422	H-7	Q415	K-4	TP407	H-6
IC3	C-3	IC423	E-7	Q416	K-1	TP408	J-2
IC4	B-5	IC424	E-7	Q417	K-3	TP409	K-4
IC5	B-6	IC425	E-6	Q418	K-4	TP415	K-7
IC6	B-7	IC426	E-6			TP417	J-6
IC7	C-6	IC427	G-6	RB1	C-6		
IC8	D-6	IC428	G-6	RB101	B-1		
IC9	B-6	IC429	G-6	RB102	B-2		
IC101	H-1	IC430	G-6	RB103	B-2		
IC102	E-1	IC431	G-5	RB104	A-2		
IC103	D-3	IC432	G-5	RB201	B-3		
IC104	D-1	IC433	D-6	RB202	B-3		
IC105	E-2	IC434	D-6	RB203	A-4		
IC106	B-1	IC435	D-7	RB204	A-4		
IC107	B-3	IC436	D-6	RB301	B-4		
IC108	C-2	IC437	D-7	RB302	B-5		
IC109	D-1	IC438	F-6	RB303	A-5		
IC110	C-1	IC439	F-7	RB304	A-5		

AD-39 (1/2) BOARD


CN1
DT-18/19
TO 2/2
1
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A
B
C
D
E
F
G
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I
J
K
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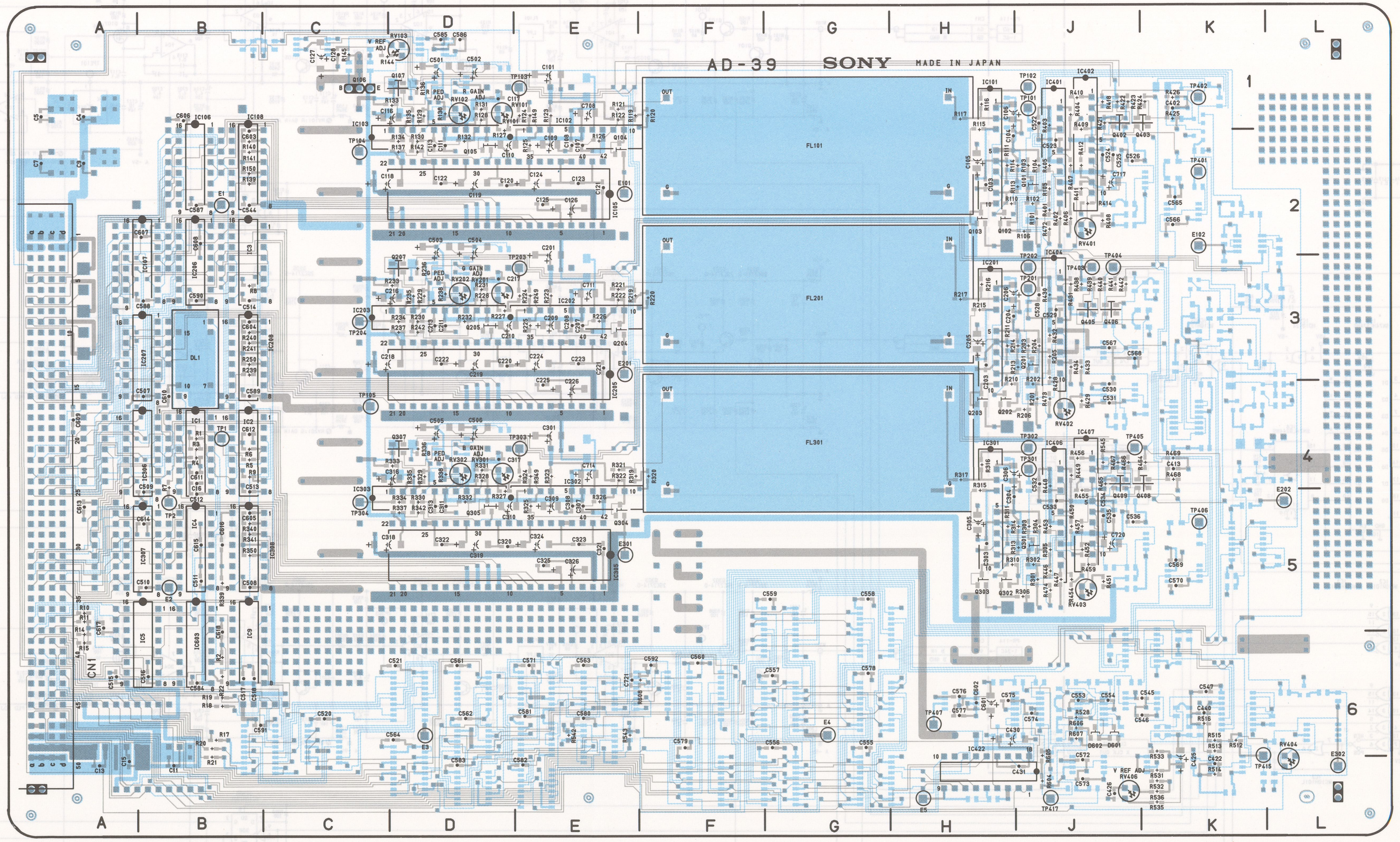
M

* NOTE

REF No.	CHANGE INFORMATION	SER No.
C129 C229 C329	1P →DELETE 1P →DELETE 1P →DELETE	10101-
R20	100 → 0	
IC105 IC205 IC305	CX20116A → CX20116	10301-
IC7	TC74HC175F → SN74HC175NS	
IC8	TC74HC374F → SN74HC374NS	

AD-39 (1/2) BOARD

AD-39 BOARD Serial No. 10001 – 10120



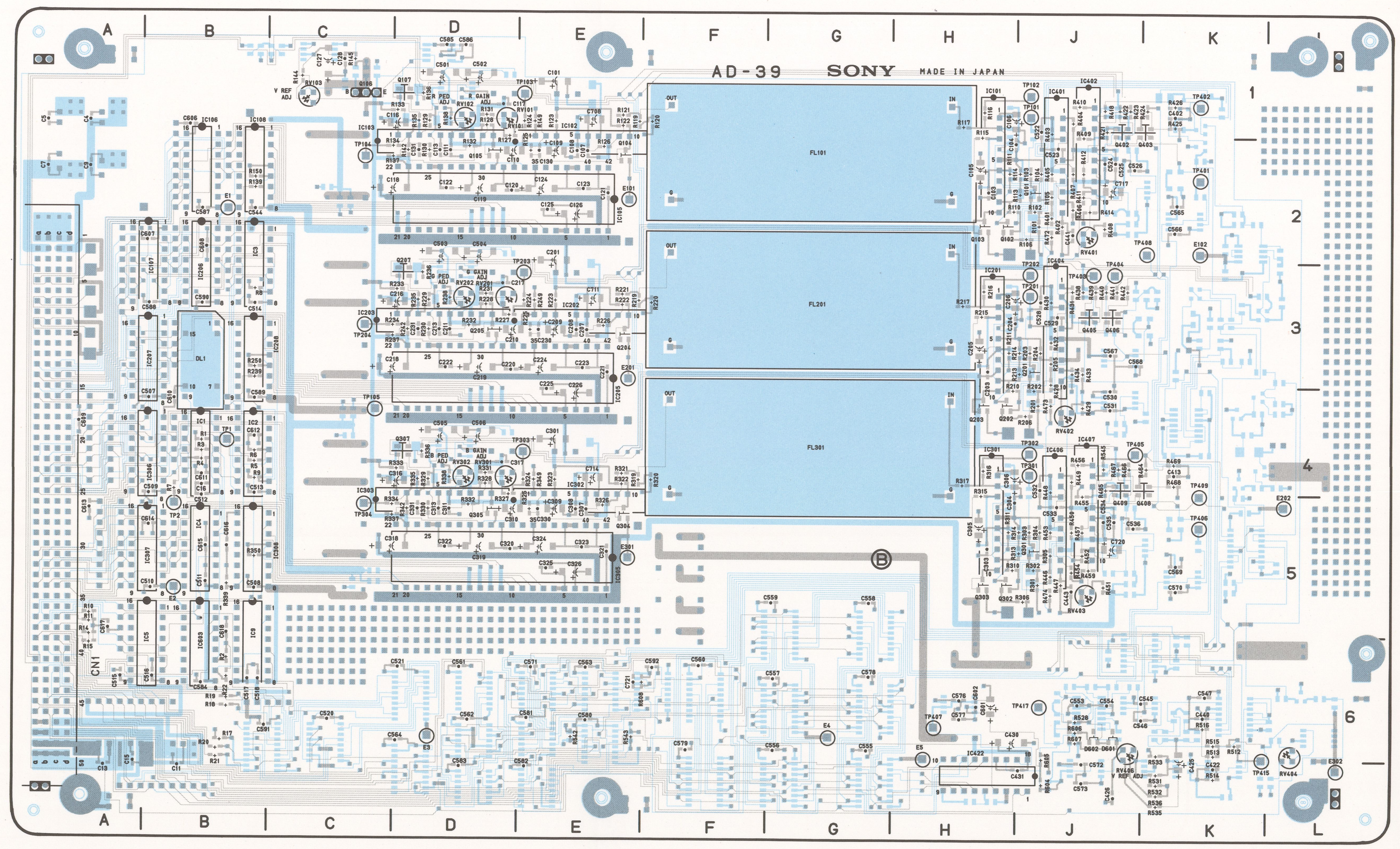
1-627-253-11 SOLDERING SIDE

AD-39 1-627-253-11

CN1	A-4	IC205	D-3	Q101	J-2	RV202	D-3
		IC206	B-3	Q102	H-2	RV301	D-4
CP1	A-5	IC207	B-3	Q103	H-2	RV302	D-4
		IC208	B-3	Q104	E-2	RV401	J-2
D401	K-1	IC301	H-5	Q105	D-2	RV402	J-4
D402	J-6	IC302	E-5	Q106	C-1	RV403	J-5
D601	J-6	IC303	D-5	Q107	D-1	RV404	L-7
D602	J-6	IC304	D-4	Q202	H-4	RV406	J-7
D603	H-6	IC305	D-5	Q203	H-4		
		IC306	B-4	Q204	E-3	TP1	B-4
DL1	B-3	IC307	B-5	Q205	D-3	TP2	B-5
		IC308	B-5	Q207	D-3	TP101	J-1
E1	B-2	IC401	J-2	Q301	J-5	TP102	J-1
E2	B-5	IC402	J-2	Q302	H-5	TP103	E-1
E3	D-6	IC403	J-2	Q303	H-5	TP104	C-2
E4	G-6	IC404	J-3	Q304	E-5	TP105	C-4
E5	H-7	IC405	J-4	Q305	D-5	TP201	J-3
E101	E-2	IC406	J-5	Q307	D-4	TP202	J-3
E102	K-2	IC407	J-5	Q401	J-1	TP203	E-3
E201	E-3	IC408	J-5	Q402	J-1	TP204	C-3
E202	L-5	IC409	K-2	Q403	J-1	TP301	J-4
E301	E-5	IC410	J-3	Q404	J-3	TP302	J-4
E302	L-7	IC411	K-5	Q407	J-4	TP303	E-4
		IC412	K-4	Q408	J-4	TP304	C-5
FB101	C-2	IC413	J-6	Q409	J-4	TP401	K-2
FB201	C-3	IC414	K-6	Q410	K-2	TP402	K-1
FB301	C-5	IC415	L-6	Q411	K-3	TP403	J-3
		IC416	J-6	Q412	L-6	TP404	J-3
FL101	G-2	IC417	K-7	Q413	K-4	TP405	J-4
FL201	G-3	IC418	K-5	Q414	K-4	TP406	K-5
FL301	G-4	IC419	J-6	Q415	K-4	TP407	H-6
		IC420	K-7	Q416	K-1	TP415	K-6
IC1	B-4	IC421	J-7	Q417	K-3	TP417	J-7
IC2	B-4	IC422	H-7	Q418	K-4		
IC3	B-3	IC423	E-6				
IC4	B-5	IC424	E-7	RB1	B-6		
IC5	B-6	IC425	E-6	RB101	B-2		
IC6	B-6	IC426	E-6	RB102	B-2		
IC7	C-6	IC427	G-7	RB103	B-2		
IC8	D-6	IC428	G-7	RB104	A-3		
IC9	B-6	IC429	G-6	RB201	B-2		
IC101	H-2	IC430	G-6	RB202	B-3		
IC102	E-2	IC431	G-5	RB203	A-4		
IC103	D-2	IC432	G-5	RB204	A-4		
IC104	D-1	IC434	D-6	RB301	B-4		
IC105	D-2	IC435	D-7	RB302	B-5		
IC106	B-2	IC436	E-6	RB303	A-5		
IC107	B-3	IC437	D-7	RB304	A-5		
IC108	B-2	IC438	F-6	RB401	A-6		
IC109	D-1	IC439	F-7	RB402	B-7		
IC110	C-1	IC443	D-6				
IC201	H-3	IC601	J-6	RV101	D-1		
IC202	E-3	IC602	H-6	RV102	D-1		
IC203	D-3	IC603	B-6	RV103	D-1		
IC204	D-3	IC610	F-6	RV201	D-3		

AD-39 BOARD

Serial No. 10201 –

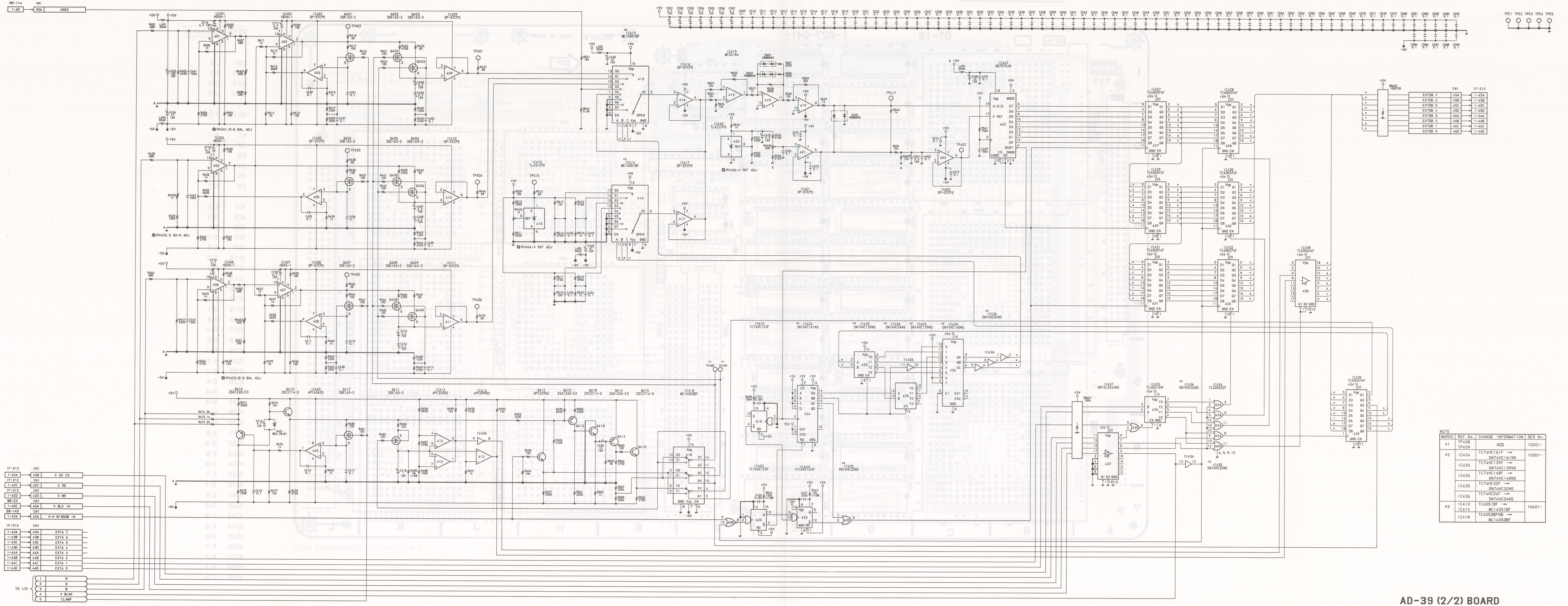


1-627-253-12 SOLDERING SIDE

AD-39 1-627-253-12

CNI105	E-2	IC201	H-3	IC440	K-2	RB401	A-6
CNI205	E-4	IC202	E-3	IC602	H-6	RB402	B-7
CNI305	E-5	IC203	D-3	IC603	B-6		
CNI422	H-7	IC204	D-2	IC610	F-6	RV101	E-1
		IC205	E-4	Q101	J-2	RV102	D-1
CN1	A-6	IC206	B-3	Q102	H-2	RV103	C-1
		IC207	A-3	Q103	H-2	RV201	E-3
CP1	A-5	IC208	C-3	Q104	E-2	RV202	D-3
		IC301	H-4	Q105	D-2	RV301	E-4
DL1	B-3	IC302	E-4	Q106	C-1	RV302	D-4
		IC303	D-4	Q107	D-1	RV401	J-2
D401	K-1	IC304	D-4	Q201	J-3	RV402	J-4
D402	J-6	IC305	E-5	Q202	H-4	RV403	J-5
D601	J-6	IC306	A-4	Q203	H-4	RV404	L-7
D602	J-6	IC307	B-5	Q204	E-3	RV406	J-7
		IC308	C-5	Q205	D-3		
E1	B-2	IC401	J-1	Q207	D-2	TP1	B-4
E2	B-5	IC402	J-1	Q301	J-5	TP2	B-4
E3	D-6	IC403	J-2	Q302	H-5	TP101	J-1
E4	G-6	IC404	J-2	Q303	H-5	TP102	J-1
E5	H-6	IC405	J-3	Q304	E-5	TP103	E-1
E101	E-2	IC406	J-4	Q305	D-5	TP104	C-2
E102	K-2	IC407	J-4	Q307	D-4	TP105	C-4
E201	E-2	IC408	J-5	Q401	J-1	TP201	J-3
E202	L-5	IC409	K-2	Q402	J-2	TP202	J-3
E301	E-5	IC410	J-3	Q403	K-2	TP203	E-2
E302	L-6	IC411	K-5	Q404	J-3	TP204	C-3
		IC412	K-4	Q405	J-3	TP301	J-4
FB101	C-2	IC413	K-5	Q406	J-3	TP302	J-4
FB201	C-3	IC414	K-6	Q407	J-4	TP303	E-4
FB301	C-5	IC415	L-6	Q408	J-5	TP304	C-4
		IC416	K-6	Q409	J-5	TP401	K-2
FL101	F-1	IC417	K-6	Q410	K-2	TP402	K-1
FL201	E-2	IC418	K-5	Q411	K-3	TP403	J-3
FL301	E-4	IC419	J-6	Q412	L-6	TP404	J-3
		IC420	K-6	Q413	K-3	TP405	J-4
IC1	B-4	IC421	J-7	Q414	K-4	TP406	K-5
IC2	C-4	IC422	H-7	Q415	K-4	TP407	H-6
IC3	C-3	IC423	E-7	Q416	K-1	TP408	J-2
IC4	B-5	IC424	E-7	Q417	K-3	TP409	K-4
IC5	B-6	IC425	E-6	Q418	K-4	TP415	K-7
IC6	B-7	IC426	E-6			TP417	J-6
IC7	C-6	IC427	G-6	RB1	C-6		
IC8	D-6	IC428	G-6	RB101	B-1		
IC9	B-6	IC429	G-6	RB102	B-2		
IC101	H-1	IC430	G-6	RB103	B-2		
IC102	E-1	IC431	G-5	RB104	A-2		
IC103	D-3	IC432	G-5	RB201	B-3		
IC104	D-1	IC433	D-6	RB202	B-3		
IC105	E-2	IC434	D-6	RB203	A-4		
IC106	B-1	IC435	D-7	RB204	A-4		
IC107	B-3	IC436	D-6	RB301	B-4		
IC108	C-2	IC437	D-7	RB302	B-5		
IC109	D-1	IC438	F-6	RB303	A-5		
IC110	C-1	IC439	F-7	RB304	A-5		

AD-39 (2/2) BOARD



NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	TP408 TP409	ADD	10201-
*2	IC424	TC74HC161F → SN74HC161NS	10301-
	IC425	TC74HC139F → SN74HC139NS	
	IC426	TC74HC148F → SN74HC148NS	
	IC435	TC74HC32F → SN74HC32NS	
	IC436	TC74HC04F → SN74HC04NS	
*3	IC413 IC414	TC4051BF → MC14051BF	10401-
	IC418	TC4053BFHB → MC14053BF	

AD-39 (2/2) BOARD

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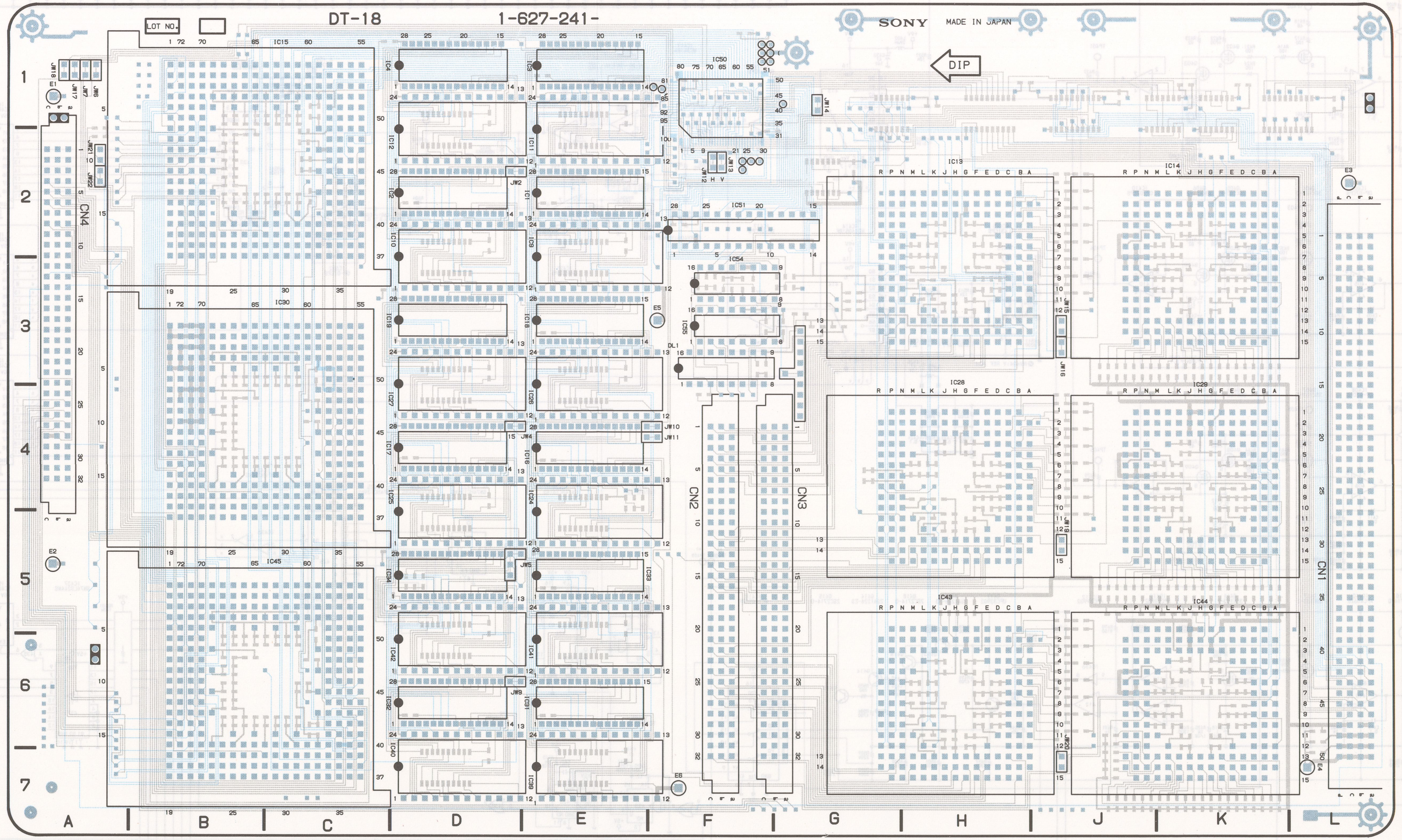
6

A B C D E F G H I J K L M

DT-18 BOARD

Serial No. 10001 – 10120

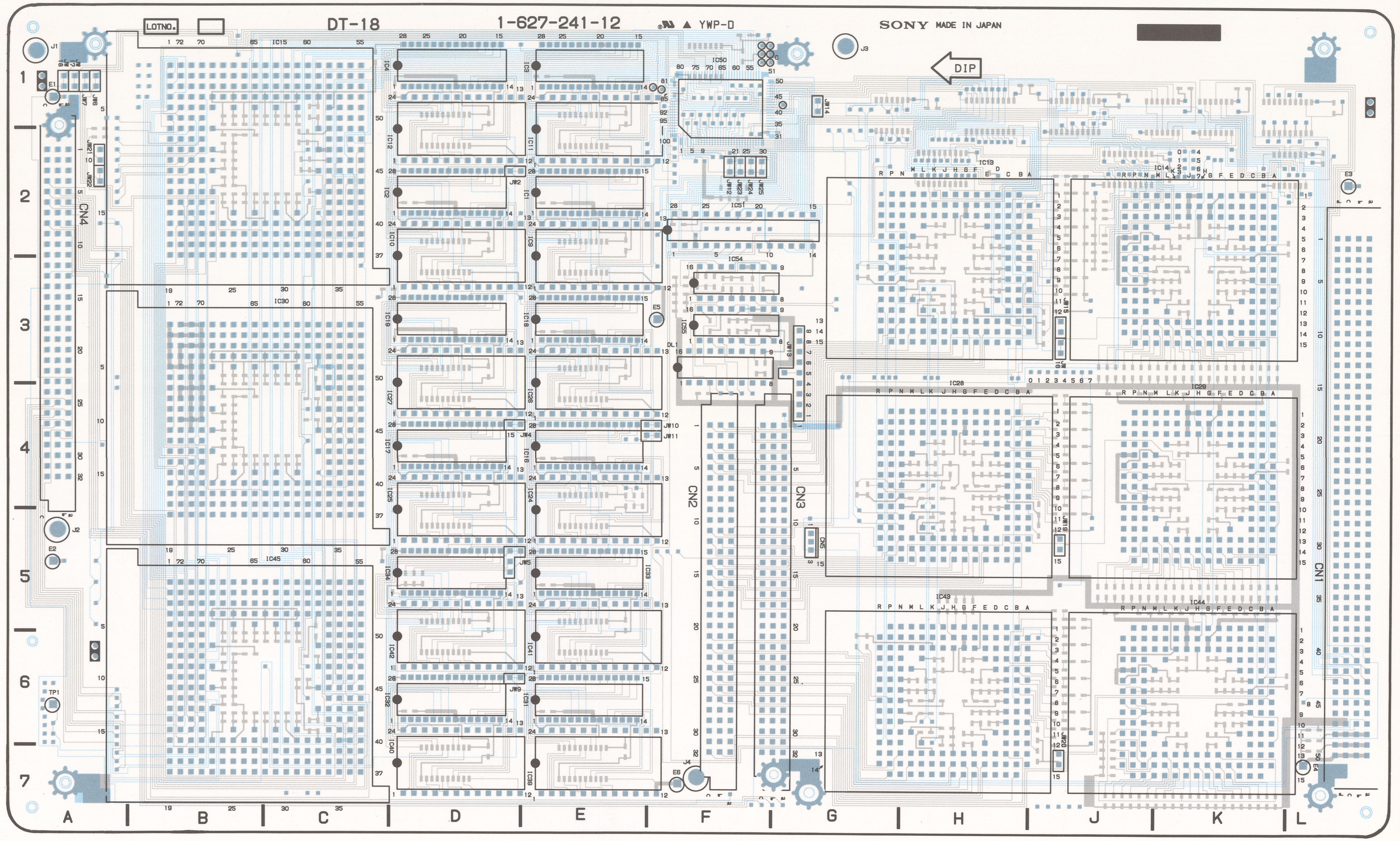

DT-18
1-627-241-
LOT NO.
SONY
MADE IN JAPAN
DIP
IC15
IC30
IC45
IC50
IC51
IC54
IC13
IC14
IC28
IC29
IC43
IC44
CN1
CN2
CN3
CN4
DL1
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
J
K
L

1-627-241-11 COMPONENT SIDE

DT-18 1-627-241-11	
CN1	L-5
CN2	F-4
CN3	G-4
CN4	A-2
DL1	F-3
E1	A-1
E2	A-5
E3	L-2
E4	L-7
E5	F-3
E6	F-7
IC1	E-2
IC2	D-2
IC3	E-1
IC4	D-1
IC9	E-2
IC10	D-2
IC11	E-2
IC12	D-2
IC13	H-2
IC14	K-2
IC15	C-1
IC16	E-4
IC17	D-4
IC18	E-3
IC19	D-3
IC24	E-4
IC25	D-4
IC26	E-4
IC27	D-4
IC28	H-4
IC29	K-4
IC30	C-3
IC31	E-6
IC32	D-6
IC33	E-5
IC34	D-5
IC39	E-7
IC40	D-7
IC41	E-6
IC42	D-6
IC43	H-6
IC44	K-6
IC45	C-5
IC50	F-1
IC51	F-2
IC54	F-3
IC55	F-3

DT-18 BOARD

Serial No. 10201 –

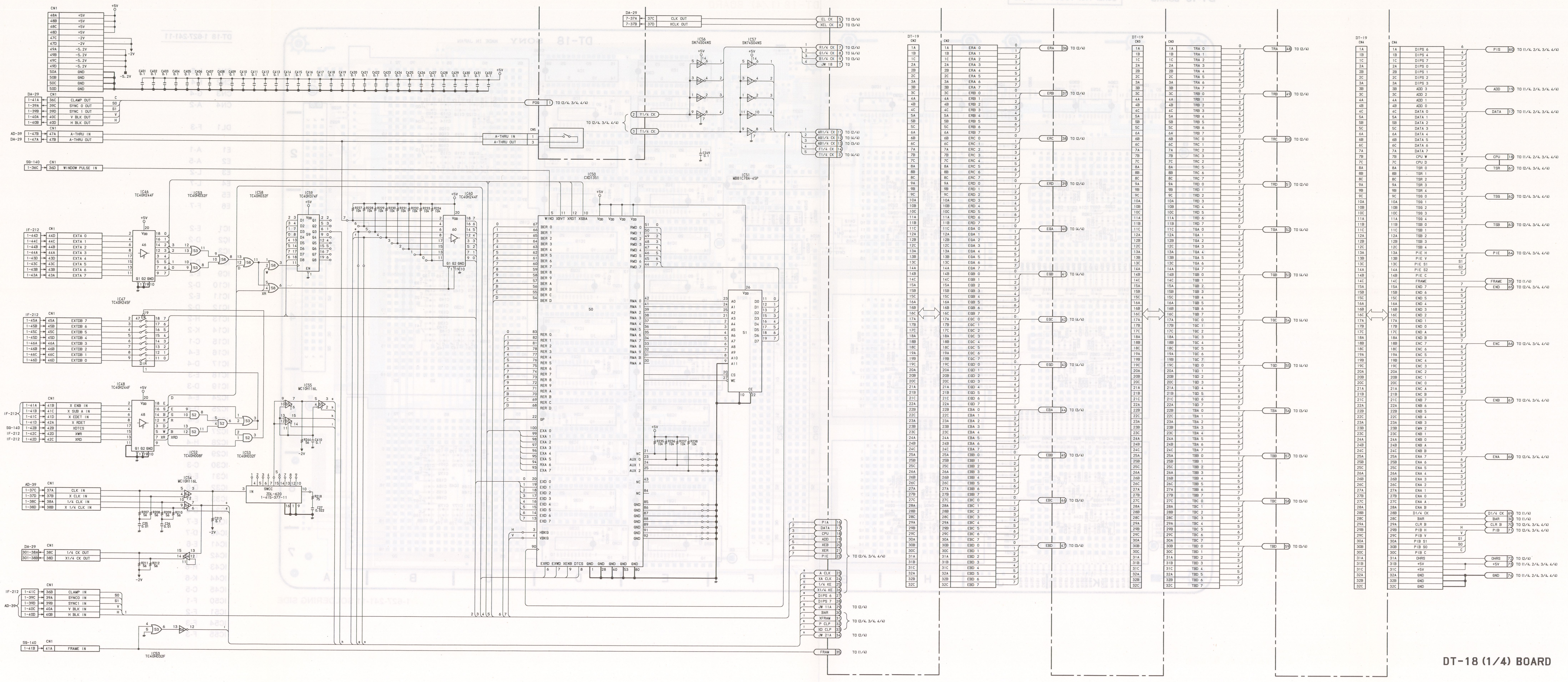

LOT NO.
DT-18
1-627-241-12
YWP-D
SONY MADE IN JAPAN
DIP
CN1
CN2
CN3
CN4
IC15
IC30
IC45
IC28
IC29
IC43
IC44
IC13
IC14
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
J
K
L

1-627-241-12 COMPONENT SIDE

DT-18 1-627-241-12

CNI9	E-2	IC27	D-4
CNI10	D-2	IC28	H-4
CNI11	E-2	IC29	K-4
CNI12	D-2	IC30	C-3
CNI13	H-2	IC31	E-6
CNI14	K-2	IC32	D-6
CNI15	C-1	IC33	E-5
CNI24	E-4	IC34	D-5
CNI25	D-4	IC35	E-6
CNI26	E-4	IC36	D-6
CNI27	D-4	IC37	E-5
CNI28	H-4	IC38	D-5
CNI29	K-4	IC39	E-7
CNI30	C-3	IC40	D-7
CNI39	E-7	IC41	E-6
CNI40	D-7	IC42	D-6
CNI41	E-6	IC43	H-5
CNI42	D-6	IC44	K-5
CNI43	H-5	IC45	C-5
CNI44	K-5	IC46	L-1
		IC47	H-1
CN1	L-5		
CN2	F-4	TPE1	A-1
CN3	G-4	TPE2	A-5
CN4	A-2	TPE3	L-2
CN5	G-5	TPE4	L-7
		TPE5	F-3
DL1	F-3	TPE6	F-6
IC1	E-2	TP1	A-6
IC2	D-2		
IC3	E-1		
IC4	D-1		
IC5	E-2		
IC6	D-2		
IC7	E-1		
IC8	D-1		
IC9	E-2		
IC10	D-2		
IC11	E-2		
IC12	D-2		
IC13	H-2		
IC14	K-2		
IC15	C-1		
IC16	E-4		
IC17	D-4		
IC18	E-3		
IC19	D-3		
IC20	E-4		
IC12	D-4		
IC22	E-4		
IC23	D-4		
IC24	E-4		
IC25	D-4		
IC26	E-4		

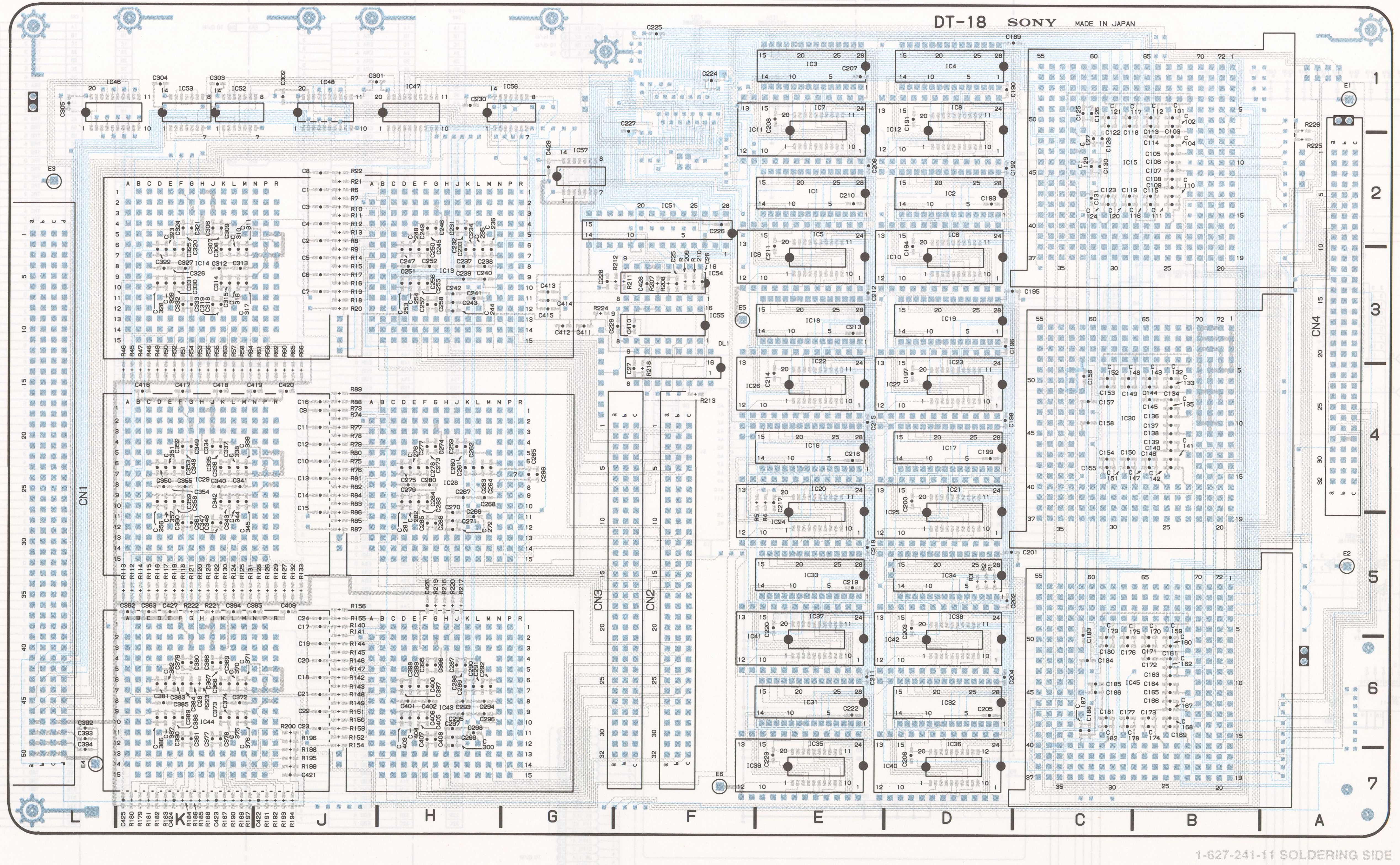
DT-18 (1/4) BOARD


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M

DT-18 (1/4) BOARD

DT-18 BOARD

Serial No. 10001 – 10120

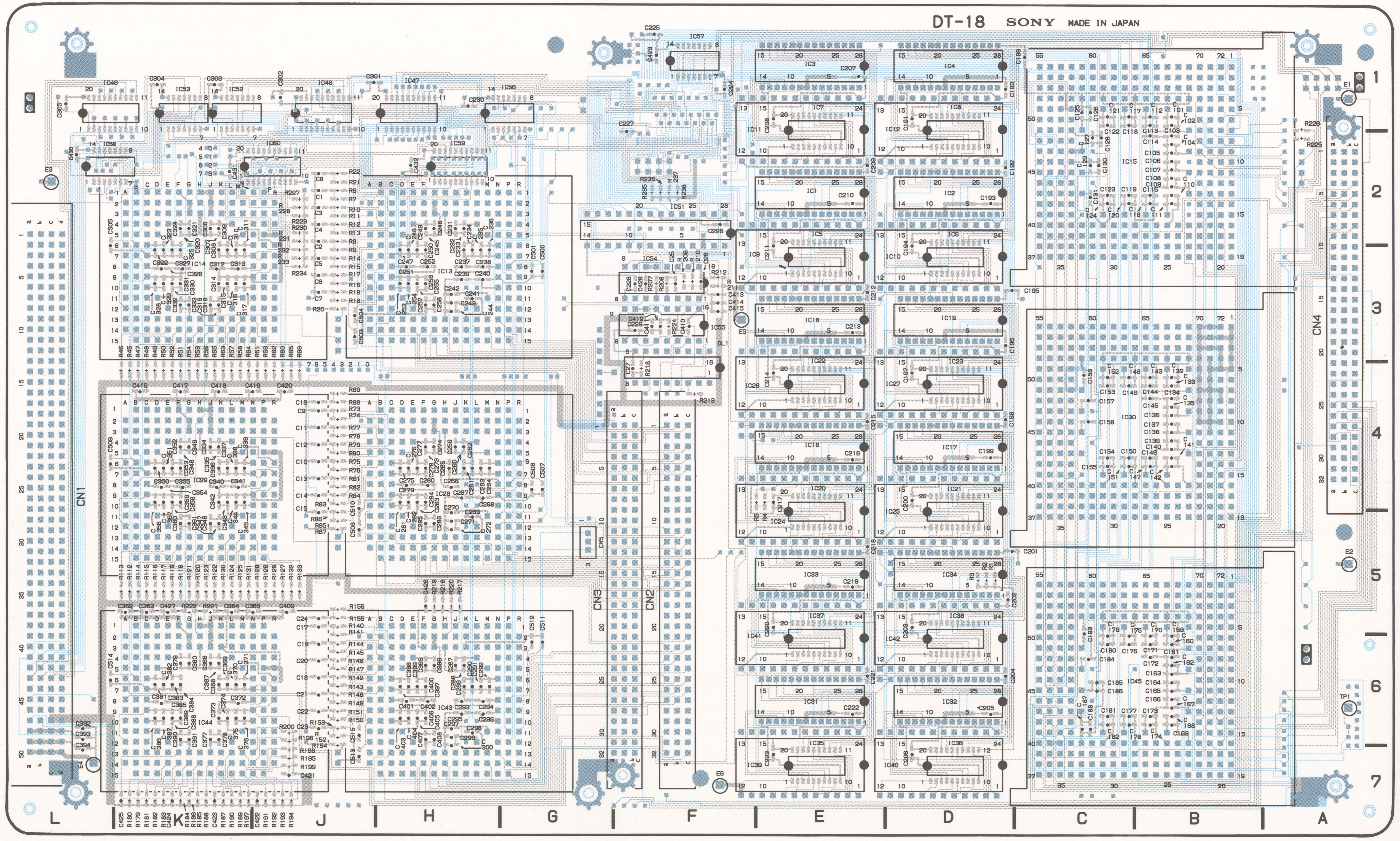

DT-18
SONY
MADE IN JAPAN
CN1
CN2
CN3
CN4
1
2
3
4
5
6
7
L
K
J
H
G
F
E
D
C
B
A
1-627-241-11 SOLDERING SIDE

DT-18 1-627-241-11

CN1	L-5
CN2	F-4
CN3	G-4
CN4	A-2
DL1	F-3
E1	A-1
E2	A-5
E3	L-2
E4	L-7
E5	F-3
E6	F-7
IC1	E-2
IC2	D-2
IC3	E-1
IC4	D-1
IC9	E-2
IC10	D-2
IC11	E-2
IC12	D-2
IC13	H-2
IC14	K-2
IC15	C-1
IC16	E-4
IC17	D-4
IC18	E-3
IC19	D-3
IC24	E-4
IC25	D-4
IC26	E-4
IC27	D-4
IC28	H-4
IC29	K-4
IC30	C-3
IC31	E-6
IC32	D-6
IC33	E-5
IC34	D-5
IC39	E-7
IC40	D-7
IC41	E-6
IC42	D-6
IC43	H-6
IC44	K-6
IC45	C-5
IC50	F-1
IC51	F-2
IC54	F-3
IC55	F-3

DT-18 BOARD

Serial No. 10201 –

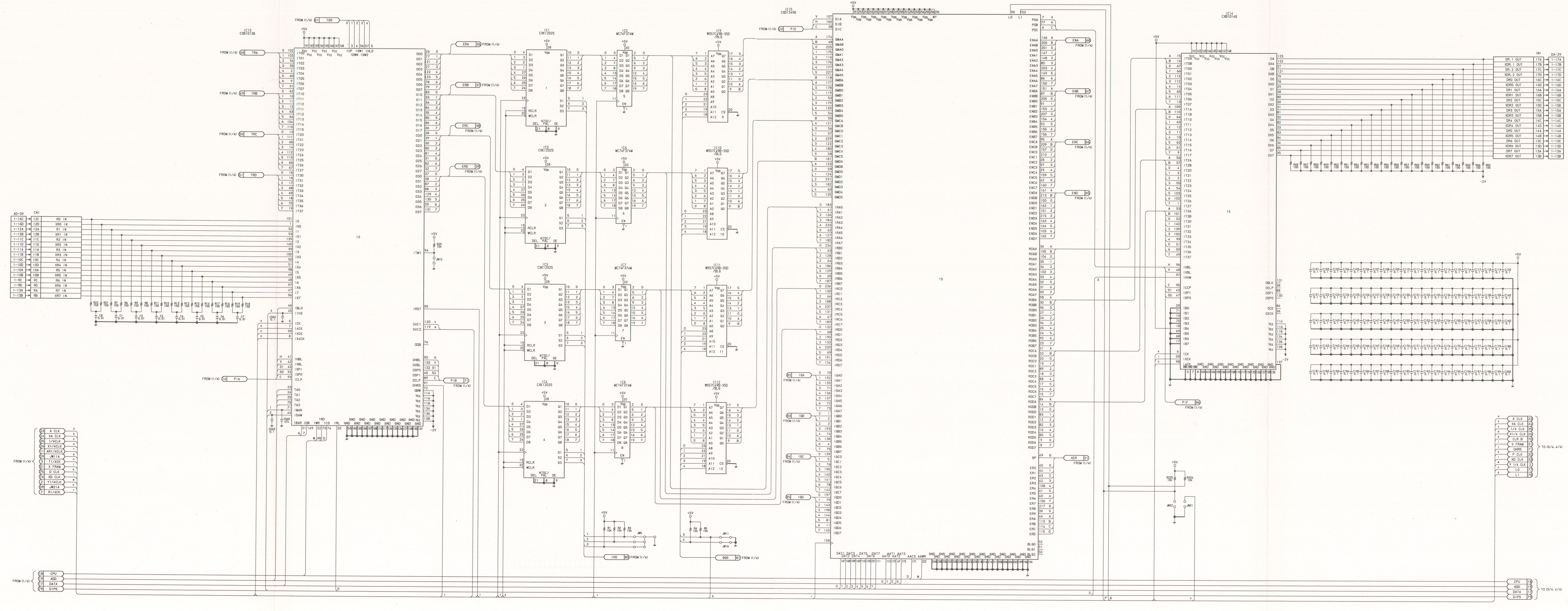


1-627-241-12 SOLDERING SIDE

DT-18 1-627-241-12

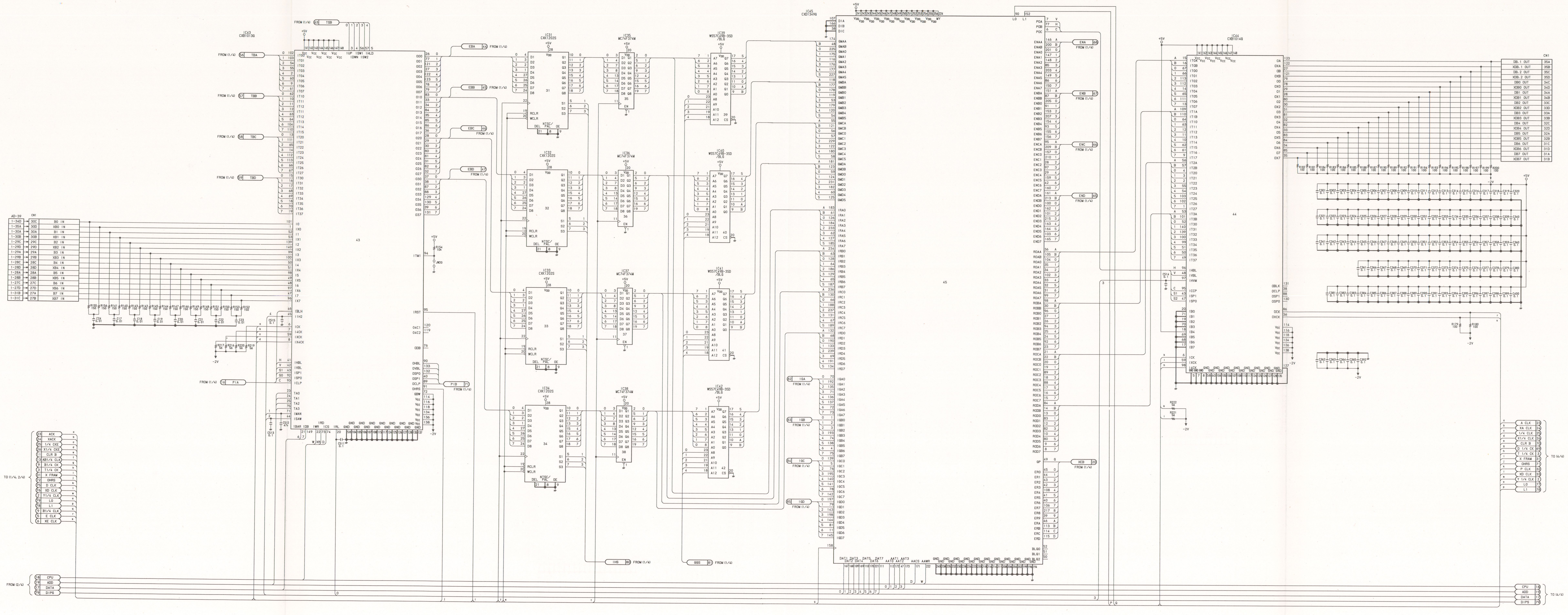
CNI9	E-2
CNI10	D-2
CNI11	E-2
CNI12	D-2
CNI13	H-2
CNI14	K-2
CNI15	C-1
CNI24	E-4
CNI25	D-4
CNI26	E-4
CNI27	D-4
CNI28	H-4
CNI29	K-4
CNI30	C-3
CNI39	E-7
CNI40	D-7
CNI41	E-6
CNI42	D-6
CNI43	H-5
CNI44	K-5
CN1	L-5
CN2	F-4
CN3	G-4
CN4	A-2
CN5	G-5
DL1	F-3
IC1	E-2
IC2	D-2
IC3	E-1
IC4	D-1
IC5	E-2
IC6	D-2
IC7	E-1
IC8	D-1
IC9	E-2
IC10	D-2
IC11	E-2
IC12	D-2
IC13	H-2
IC14	K-2
IC15	C-1
IC16	E-4
IC17	D-4
IC18	E-3
IC19	D-3
IC20	E-4
IC12	D-4
IC22	E-4
IC23	D-4
IC24	E-4
IC25	D-4
IC26	E-4
IC27	D-4
IC28	H-4
IC29	K-4
IC30	C-3
IC31	E-6
IC32	D-6
IC33	E-5
IC34	D-5
IC35	E-6
IC36	D-6
IC37	E-5
IC38	D-5
IC39	E-7
IC40	D-7
IC41	E-6
IC42	D-6
IC43	H-5
IC44	K-5
IC45	C-5
IC46	L-1
IC47	H-1
TPE1	A-1
TPE2	A-5
TPE3	L-2
TPE4	L-7
TPE5	F-3
TPE6	F-6
TP1	A-6

DT-18 (2/4) BOARD



DT-18 (2/4) BOARD

DT-18 (3/4) BOARD


FROM (1/4)
FROM (2/4)
TO (1/4, 2/4)
TO (4/4)
CPU
ADD
DATA
DIPS
+5V
-2V
CN1
C-105
C-106
C-107
C-108
A
B
C
D
E
F
G
H
I
J
K
L
M
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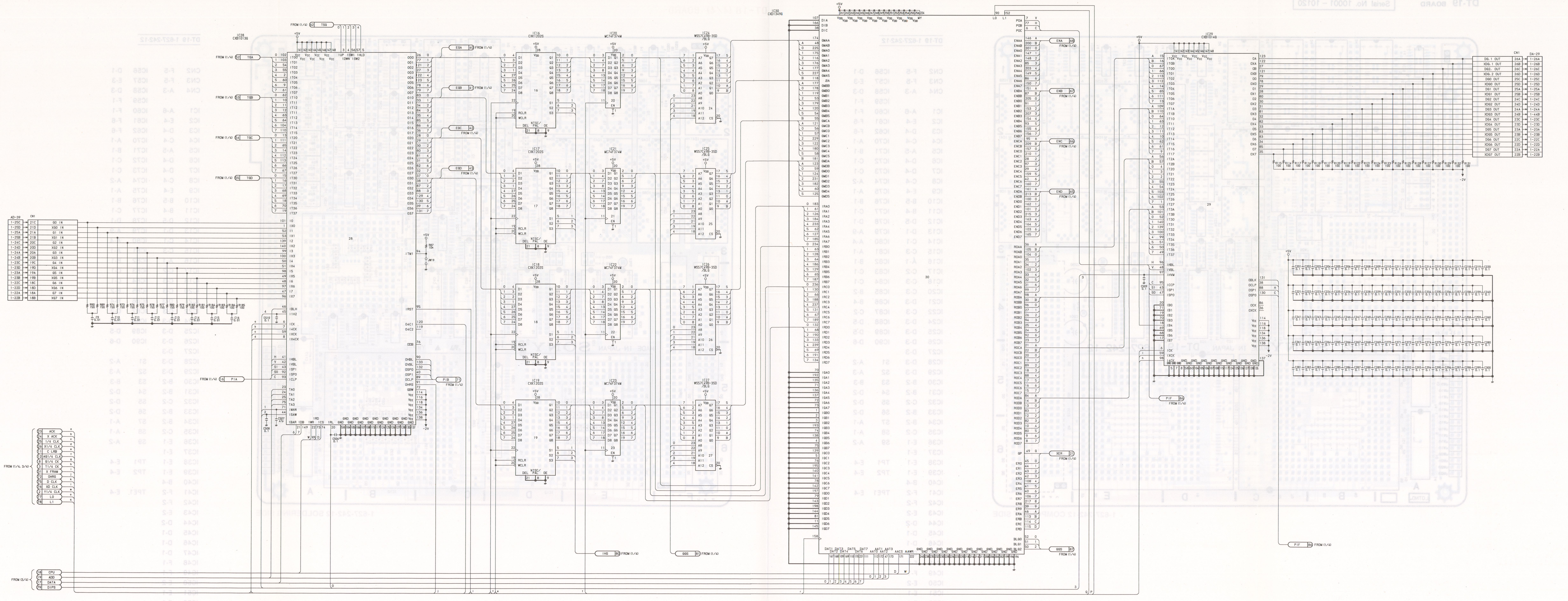
6

DT-18 (3/4) BOARD

DT-18 (4/4) BOARD


IC28
CXB1013G
FROM (1/4) 62 TSG
+5V
FROM (1/4) 52 TGA
FROM (1/4) 53 TGB
FROM (1/4) 54 TGC
FROM (1/4) 55 TGD
EGA 40 FROM (1/4)
EGB 41 FROM (1/4)
EGC FROM (1/4)
EGD FROM (1/4)
IC16
CXK1202S
IC17
CXK1202S
IC18
CXK1202S
IC19
CXK1202S
IC20
MC74F374M
IC21
MC74F374M
IC22
MC74F374M
IC23
MC74F374M
IC24
WS57C49B-35D
/BLG
IC25
WS57C49B-35D
IC26
WS57C49B-35D
IC27
WS57C49B-35D
IC30
CXD1349G
ENA 68 FROM (1/4)
ENB FROM (1/4)
ENC FROM (1/4)
END FROM (1/4)
IC29
CXB1014G
AD-39
CN1
1-25C 21C G0 IN
1-25D 21D XG0 IN
1-25A 21A G1 IN
1-25B 21B XG1 IN
1-24C 20C G2 IN
1-24D 20D XG2 IN
1-24A 20A G3 IN
1-24B 20B XG3 IN
1-23C 19C G4 IN
1-23D 19D XG4 IN
1-23A 19A G5 IN
1-23B 19B XG5 IN
1-22C 18C G6 IN
1-22D 18D XG6 IN
1-22A 18A G7 IN
1-22B 18B XG7 IN
R90 150
R89 150
R74 150
R73 150
R76 150
R75 150
R78 150
R77 150
R80 150
R79 150
R182 100
R181 100
R184 100
R183 100
R186 100
R185 100
C9 0.01
C10 0.01
C11 0.01
C12 0.01
C13 0.01
C14 0.01
C15 0.01
C16 0.01
C510 0.1
FROM (1/4) P1A
P1B FROM (1/4)
P1F FROM (1/4)
P1K FROM (1/4)
FROM (1/4, 3/4)
23 ACK
24 X ACK
25 1/4 CLK
26 X1/4 CLK
11 C LRB
12 AG1/4 CLK
8 G1/4 CK
3 T1/4 CK
31 X FRAM
72 OHRS
75 D CLK
76 XD CLK
2 Y1/4 CLK
77 L0
78 L1
FROM (3/4)
18 CPU
19 ADD
17 DATA
79 DIPS
1HB FROM (1/4)
BBB FROM (1/4)
EBB FROM (1/4)
CN1
DA-29
DG. 1 OUT 26A 1-26A
XDG. 1 OUT 26B 1-26B
DG2. OUT 26C 1-26C
XDG. 2 OUT 26D 1-26D
DG0 OUT 25C 1-25C
XDG0 OUT 25D 1-25D
DG1 OUT 25A 1-25A
XDG1 OUT 25B 1-25B
DG2 OUT 24C 1-24C
XDG2 OUT 24D 1-24D
DG3 OUT 24A 1-24A
XDG3 OUT 24B 1-44B
DG4 OUT 23C 1-23C
XDG4 OUT 23D 1-23D
DG5 OUT 23A 1-23A
XDG5 OUT 23B 1-23B
DG6 OUT 22C 1-22C
XDG6 OUT 22D 1-22D
DG7 OUT 22A 1-22A
XDG7 OUT 22B 1-22B
R127 100
R130 100
R129 100
R132 100
R131 100
-2V
1
2
3
4
5
6
A
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L
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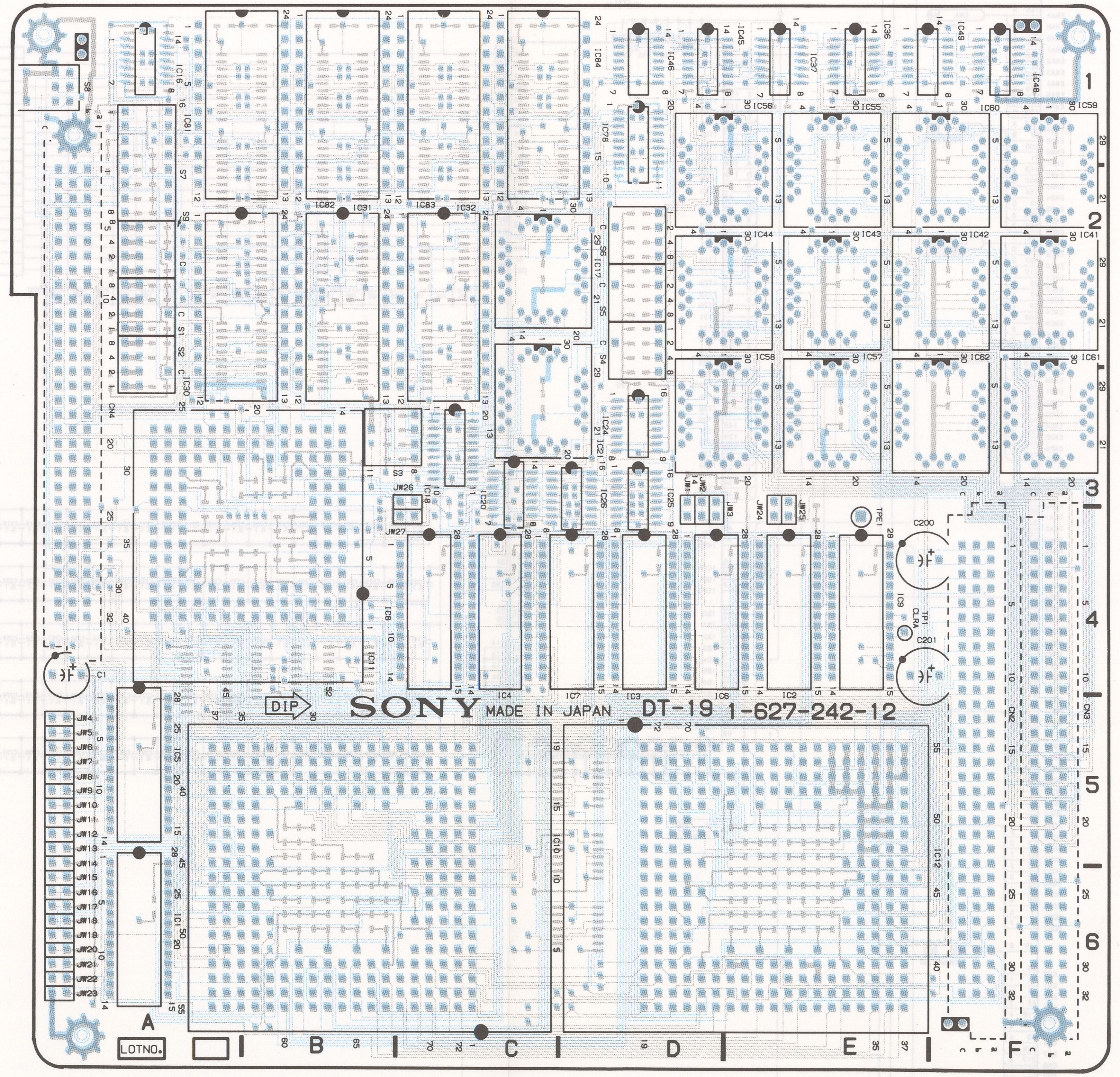
DT-18 (4/4) BOARD

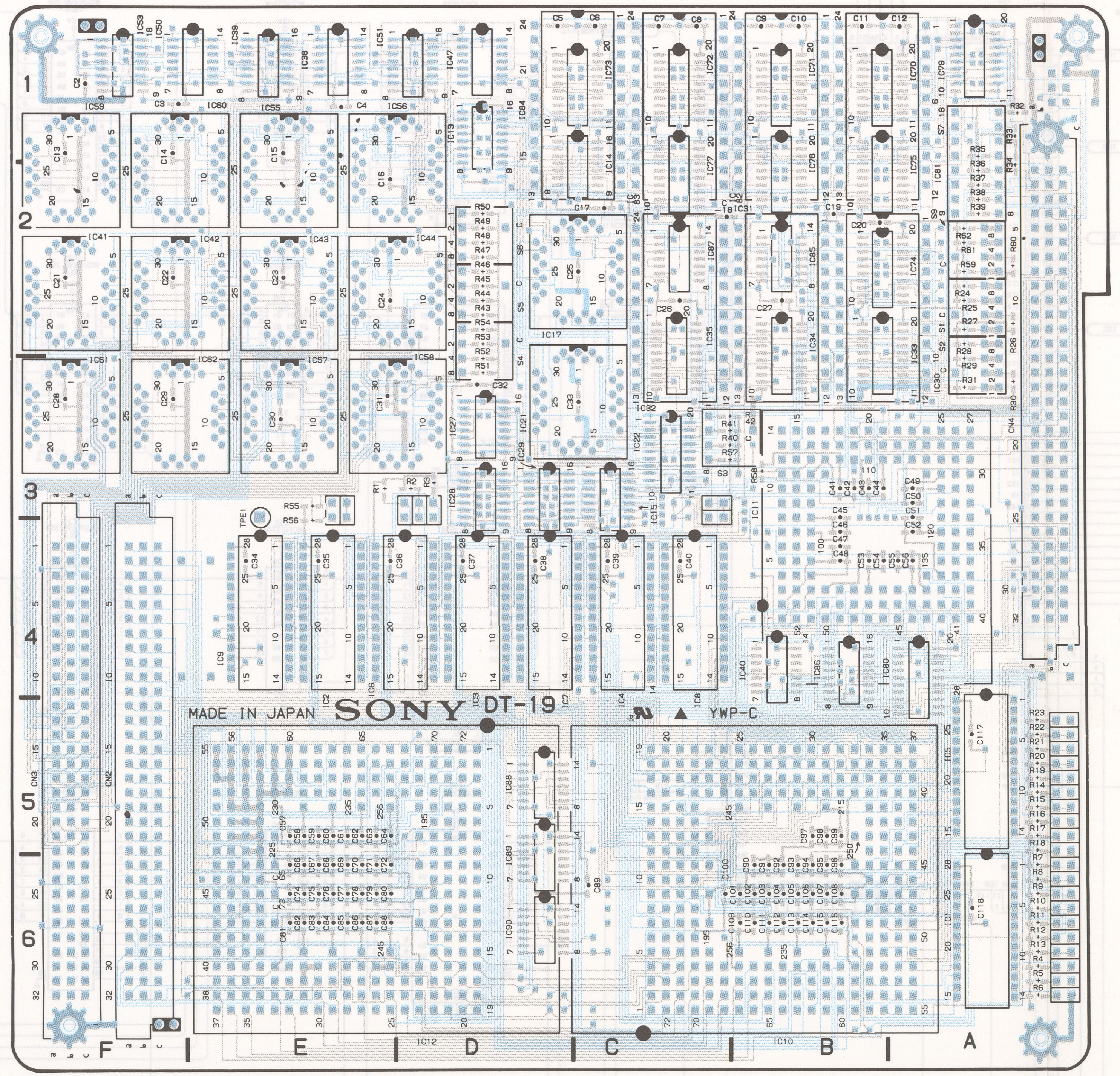
DT-19 BOARD Serial No. 10001 – 10120



1-627-242-12 COMPONENT SIDE

DT-19 1-627-242-12

CN2	F-5	IC56	D-1
CN3	F-5	IC57	E-3
CN4	A-3	IC58	D-3
		IC59	F-1
IC1	A-6	IC60	F-1
IC2	E-4	IC61	F-6
IC3	D-4	IC62	F-6
IC4	C-4	IC70	A-1
IC5	A-5	IC71	B-1
IC6	D-4	IC72	C-1
IC7	D-4	IC73	C-1
IC8	C-4	IC74	A-2
IC9	E-4	IC75	A-1
IC10	B-5	IC76	B-1
IC11	B-4	IC77	C-1
IC12	D-5	IC78	D-1
IC13	D-1	IC79	A-9
IC14	C-1	IC80	A-4
IC15	C-3	IC81	A-1
IC16	A-1	IC82	B-1
IC17	C-2	IC83	C-1
IC18	C-3	IC84	C-1
IC20	C-3	IC85	B-2
IC21	D-3	IC86	B-4
IC22	C-3	IC87	C-2
IC24	D-3	IC88	D-5
IC25	D-3	IC89	D-5
IC26	D-3	IC90	D-6
IC27	D-3		
IC28	D-3	S1	A-2
IC29	D-3	S2	A-3
IC30	B-2	S3	B-3
IC31	B-2	S4	D-2
IC32	C-2	S5	D-2
IC33	B-2	S6	D-2
IC34	B-2	S7	A-1
IC35	C-2	S8	A-1
IC36	E-1	S9	A-2
IC37	E-1		
IC38	E-1	TP1	E-4
IC39	E-1	TP2	E-4
IC40	B-4		
IC41	F-2	TPE1	E-4
IC42	F-2		
IC43	E-2		
IC44	D-2		
IC45	D-1		
IC46	D-1		
IC47	D-1		
IC48	F-1		
IC49	F-1		
IC50	E-2		
IC51	E-1		
IC53	F-1		
IC55	E-1		

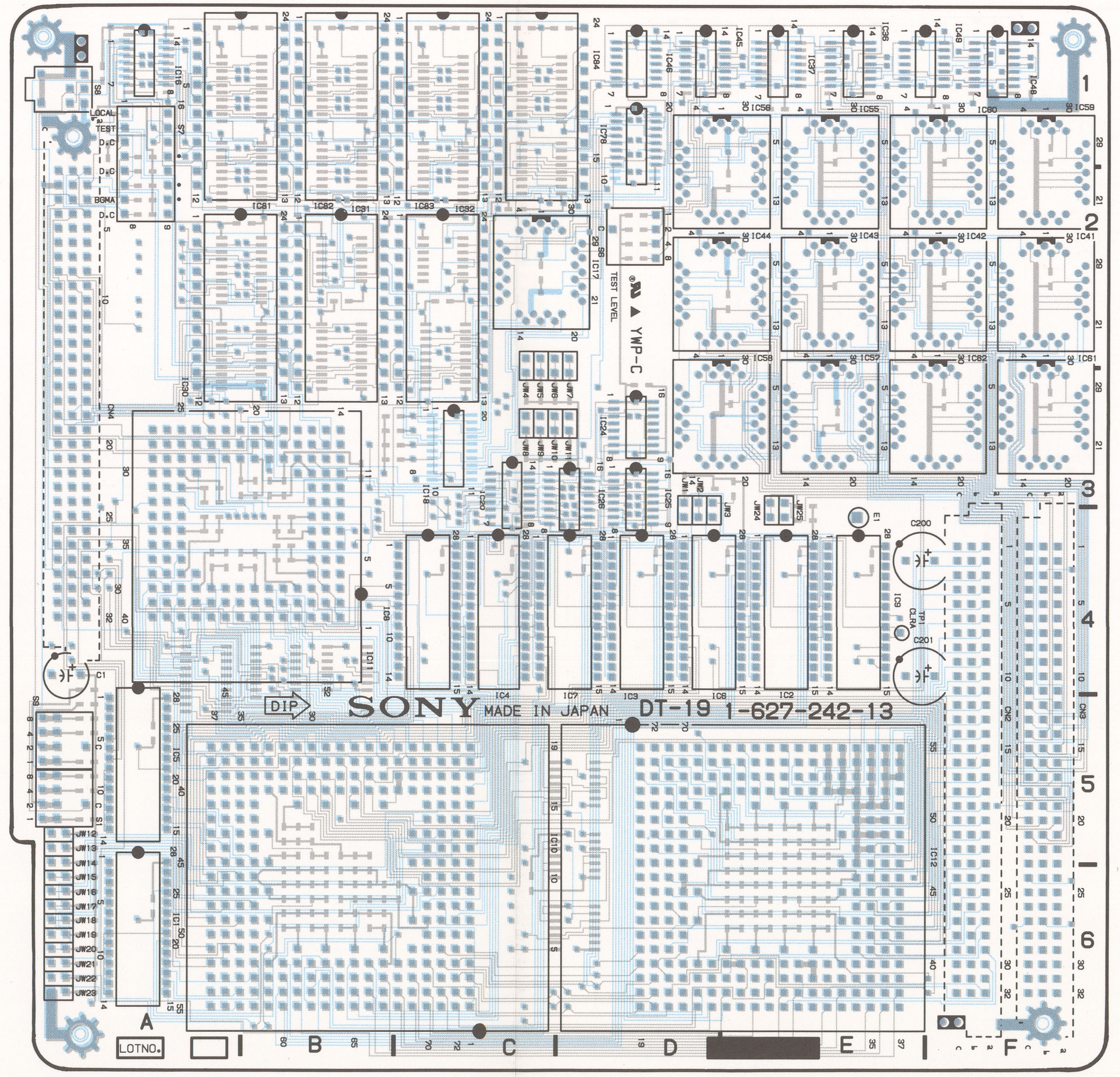


1-627-242-12 SOLDERING SIDE

DT-19 1-627-242-12

CN2	F-5	IC56	D-1
CN3	F-5	IC57	E-3
CN4	A-3	IC58	D-3
		IC59	F-1
IC1	A-6	IC60	F-1
IC2	E-4	IC61	F-6
IC3	D-4	IC62	F-6
IC4	C-4	IC70	A-1
IC5	A-5	IC71	B-1
IC6	D-4	IC72	C-1
IC7	D-4	IC73	C-1
IC8	C-4	IC74	A-2
IC9	E-4	IC75	A-1
IC10	B-5	IC76	B-1
IC11	B-4	IC77	C-1
IC12	D-5	IC78	D-1
IC13	D-1	IC79	A-9
IC14	C-1	IC80	A-4
IC15	C-3	IC81	A-1
IC16	A-1	IC82	B-1
IC17	C-2	IC83	C-1
IC18	C-3	IC84	C-1
IC20	C-3	IC85	B-2
IC21	D-3	IC86	B-4
IC22	C-3	IC87	C-2
IC24	D-3	IC88	D-5
IC25	D-3	IC89	D-5
IC26	D-3	IC90	D-6
IC27	D-3		
IC28	D-3	S1	A-2
IC29	D-3	S2	A-3
IC30	B-2	S3	B-3
IC31	B-2	S4	D-2
IC32	C-2	S5	D-2
IC33	B-2	S6	D-2
IC34	B-2	S7	A-1
IC35	C-2	S8	A-1
IC36	E-1	S9	A-2
IC37	E-1		
IC38	E-1	TP1	E-4
IC39	E-1	TP2	E-4
IC40	B-4		
IC41	F-2	TPE1	E-4
IC42	F-2		
IC43	E-2		
IC44	D-2		
IC45	D-1		
IC46	D-1		
IC47	D-1		
IC48	F-1		
IC49	F-1		
IC50	E-2		
IC51	E-1		
IC53	F-1		
IC55	E-1		

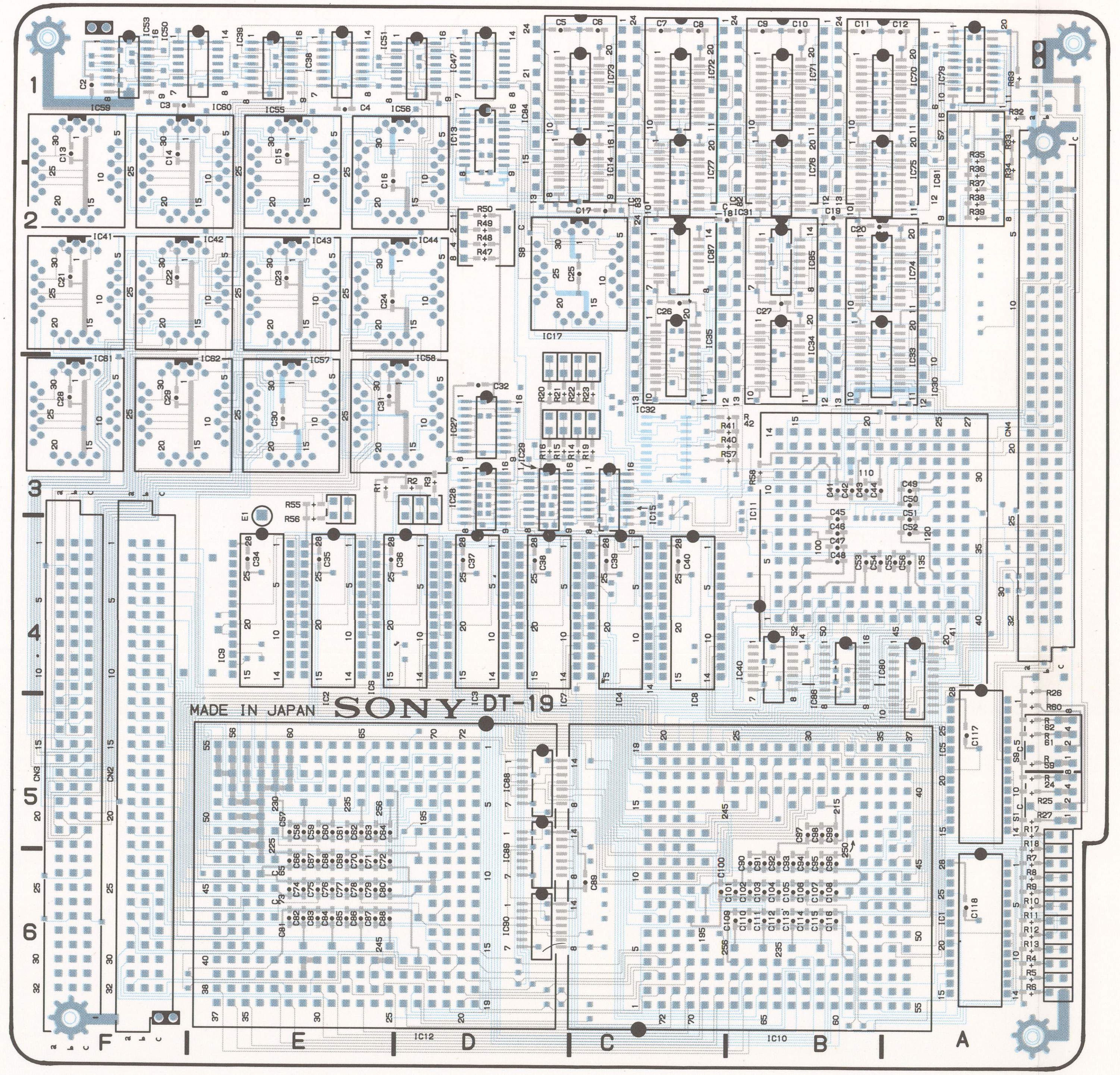
DT-19 BOARD Serial No. 10201 –



1-627-242-13 COMPONENT SIDE

DT-19 1-627-242-13

CNI10	C-5	IC32	C-2	S8	A-1
CNI11	B-4	IC33	A-2	S9	A-5
CNI12	F-5	IC34	B-2		
CNI17	D-2	IC35	C-2	TPE1	E-4
CNI30	A-3	IC36	E-1		
CNI31	B-2	IC37	E-1	TP1	E-4
CNI32	C-2	IC38	E-1		
CNI41	F-2	IC39	E-1		
CNI42	F-2	IC40	B-4		
CNI43	E-2	IC41	F-2		
CNI44	E-2	IC42	F-2		
CNI55	E-1	IC43	E-2		
CNI56	E-1	IC44	E-2		
CNI57	E-2	IC45	E-1		
CNI58	E-2	IC46	D-1		
CNI59	F-1	IC47	D-1		
CNI60	F-1	IC48	F-1		
CNI61	F-2	IC49	F-1		
CNI62	F-2	IC50	F-1		
CNI81	A-1	IC51	E-1		
CNI82	B-2	IC53	F-1		
CNI83	C-2	IC55	E-1		
CNI84	D-1	IC56	E-1		
		IC57	E-2		
CN2	F-5	IC58	E-2		
CN3	F-5	IC59	F-1		
CN4	A-3	IC60	F-1		
		IC61	F-2		
IC1	A-6	IC62	F-2		
IC2	E-5	IC70	A-1		
IC3	D-4	IC71	B-1		
IC4	C-5	IC72	C-1		
IC5	A-5	IC73	C-1		
IC6	D-4	IC74	A-2		
IC7	D-4	IC75	A-1		
IC8	B-4	IC76	B-1		
IC9	E-4	IC77	C-2		
IC10	C-5	IC78	D-1		
IC11	B-4	IC79	A-1		
IC12	F-5	IC80	B-4		
IC13	D-1	IC81	B-2		
IC14	C-2	IC82	B-2		
IC15	C-3	IC83	C-2		
IC16	A-1	IC84	D-1		
IC17	D-2	IC85	B-2		
IC18	C-3	IC86	B-4		
IC20	C-3	IC87	C-2		
IC24	D-3	IC88	D-5		
IC25	D-3	IC89	D-6		
IC26	D-3	IC90	D-6		
IC27	D-3				
IC28	D-3	S1	A-5		
IC29	D-3	S5	D-2		
IC30	A-3	S6	D-2		
IC31	B-2	S7	A-1		



1-627-242-13 SOLDERING SIDE

DT-19 1-627-242-13

CNI10	C-5	IC32	C-2	S8	A-1
CNI11	B-4	IC33	A-2	S9	A-5
CNI12	F-5	IC34	B-2		
CNI17	D-2	IC35	C-2	TPE1	E-4
CNI30	A-3	IC36	E-1		
CNI31	B-2	IC37	E-1	TP1	E-4
CNI32	C-2	IC38	E-1		
CNI41	F-2	IC39	E-1		
CNI42	F-2	IC40	B-4		
CNI43	E-2	IC41	F-2		
CNI44	E-2	IC42	F-2		
CNI55	E-1	IC43	E-2		
CNI56	E-1	IC44	E-2		
CNI57	E-2	IC45	E-1		
CNI58	E-2	IC46	D-1		
CNI59	F-1	IC47	D-1		
CNI60	F-1	IC48	F-1		
CNI61	F-2	IC49	F-1		
CNI62	F-2	IC50	F-1		
CNI81	A-1	IC51	E-1		
CNI82	B-2	IC53	F-1		
CNI83	C-2	IC55	E-1		
CNI84	D-1	IC56	E-1		
		IC57	E-2		
CN2	F-5	IC58	E-2		
CN3	F-5	IC59	F-1		
CN4	A-3	IC60	F-1		
		IC61	F-2		
IC1	A-6	IC62	F-2		
IC2	E-5	IC70	A-1		
IC3	D-4	IC71	B-1		
IC4	C-5	IC72	C-1		
IC5	A-5	IC73	C-1		
IC6	D-4	IC74	A-2		
IC7	D-4	IC75	A-1		
IC8	B-4	IC76	B-1		
IC9	E-4	IC77	C-2		
IC10	C-5	IC78	D-1		
IC11	B-4	IC79	A-1		
IC12	F-5	IC80	B-4		
IC13	D-1	IC81	B-2		
IC14	C-2	IC82	B-2		
IC15	C-3	IC83	C-2		
IC16	A-1	IC84	D-1		
IC17	D-2	IC85	B-2		
IC18	C-3	IC86	B-4		
IC20	C-3	IC87	C-2		
IC24	D-3	IC88	D-5		
IC25	D-3	IC89	D-6		
IC26	D-3	IC90	D-6		
IC27	D-3				
IC28	D-3	S1	A-5		
IC29	D-3	S5	D-2		
IC30	A-3	S6	D-2		
IC31	B-2	S7	A-1		

DT-19 (1/2) BOARD

DT-19 BOARD
DT-18
CN2
IC12 CXD1349Q
IC10 CXD1349Q
IC11 CXD1350Q
IC13 CXD1349Q
CXK1202S
TO IC12
FROM CN2
TO IC10
FROM IC12
FROM IC11
TO IC11
FROM IC10
TO CN4
FROM CN4
TO Q/D
CLKA
GND
1
2
3
4
5
6

DT-19 (1/2) BOARD

C-121 C-122 C-123 C-124

A B C D E F G H I J K L M

DT-19 (2/2) BOARD

Serial No. 10001-10120

IC70 MC74F374M
IC71 MC74F374M
IC72 MC74F374M
IC73 MC74F374M
IC74 MC74F374M
IC86 SN74LS174NS
IC85 SN74LS32NS
IC81 WS57C49B-35D
IC82 WS57C49B-35D
IC83 WS57C49B-35D
IC84 WS57C49B-35D
IC75 MC74F374M
IC76 MC74F374M
IC77 MC74F374M
IC78 MC74F374M
IC79 MC74F374M
IC13 TC40H163F
IC14 TC40H163F
IC15 TC40H163F
FROM (1/2)
DENA
DENB
DENC
DEND
BAR
ADD
CPU
DATA
SY
EENA
EENB
EENC
EEND
DTL CURVE SEL
R, B CH TEST SELECT
G CH TEST SELECT
BOARD CONT
TEST SEL
1. VIDEO/TEST BAR
2. BAR
3. TEST
G PHASE ADJ
G PHASE MORE"Z"
B LEVEL
B UP
B HOLD
B DOWN
R TEST LEVEL
B TEST LEVEL
G TEST LEVEL
FROM CN3
TO IC57
TO IC58
TO IC59
TO IC60
CN3
DT-19 (2/2) BOARD

HD(S-300 (J, E)

C-129(a)

C-130(a)

C-131(a)

C-132(a)

A	B	C	D	E	F	G	H	I	J	K	L	M

B-HDCS300-DT19M82

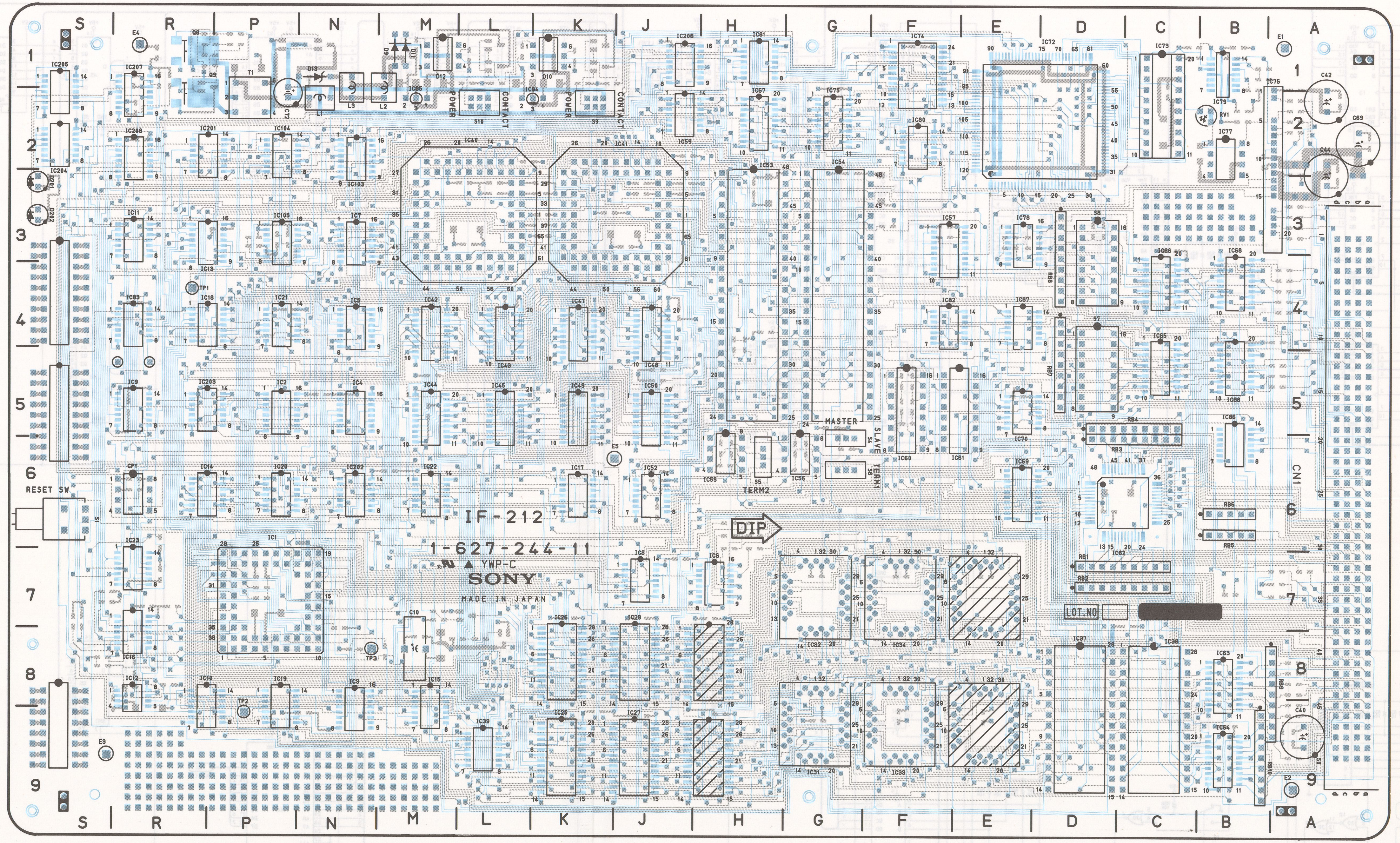
DT-19 (2/2) BOARD

Serial No. 10201-

IC70 MC74F374M
IC71 MC74F374M
IC72 MC74F374M
IC73 MC74F374M
IC74 MC74F374M
IC86 SN74LS174NS
IC85 SN74LS32NS
IC81 WS57C49B-35D /DTEN4
IC82 WS57C49B-35D /DTEN4
IC83 WS57C49B-35D /DTEN4
IC84 WS57C49B-35D /DTEN4
IC75 MC74F374M
IC76 MC74F374M
IC77 MC74F374M
IC78 MC74F374M
IC79 MC74F374M
IC13 TC40H163F
IC14 TC40H163F
IC15 TC40H163F
IC17 MBM27C128-20 TV/DTV1
FROM (1/2)
DENA
DENB
DENC
DEND
BAR
ADD
CPU
DATA
SY
D1/4CK
EP/E
P/E
D/PS
P/B
D1/4CK
E1/4CK
F1/4CK
DHRS
EENA
EENB
EENC
EEND
TEST SEL
TEST SELECT
DTL CURVE SEL
BOARD CONT
TEST LEVEL
1.VIDEO/TEST BOAR
2.TEST
R LEVEL 1
R UP
R DW 1
R HOLD
R DW 2
R DOWN
R LEVEL 0
R LEVEL 2
B LEVEL 1
B UP
B HOLD
B DW 2
B DOWN
B LEVEL 0
B LEVEL 2
G LEVEL 1
G UP
G DW 1
G HOLD
G DW 2
G DOWN
G LEVEL 0
G LEVEL 2
TRA FROM CN3
TRB FROM CN3
TRC FROM CN3
TRD FROM CN3
TGA FROM CN3
TGB FROM CN3
TGC FROM CN3
TGD FROM CN3
TO IC57
TO IC58
TO IC59
TO IC60
TO IC44
TO IC45
TO IC46
TO IC47
TO IC55
TO IC56
H1/4CK FROM (1/2)
I1/4CK FROM (1/2)
DF18
CN3
1
2
3
4
5
6
DT-19 (2/2) BOARD
HDCS-300 (J, E)
C-129(b)
C-130(b)
C-131(b)
C-132(b)
A
B
C
D
E
F
G
H
I
J
K
L
M
B-HDCS300-DT19M#2/901LD1

IF-212 BOARD

Serial No. 10001 – 10120

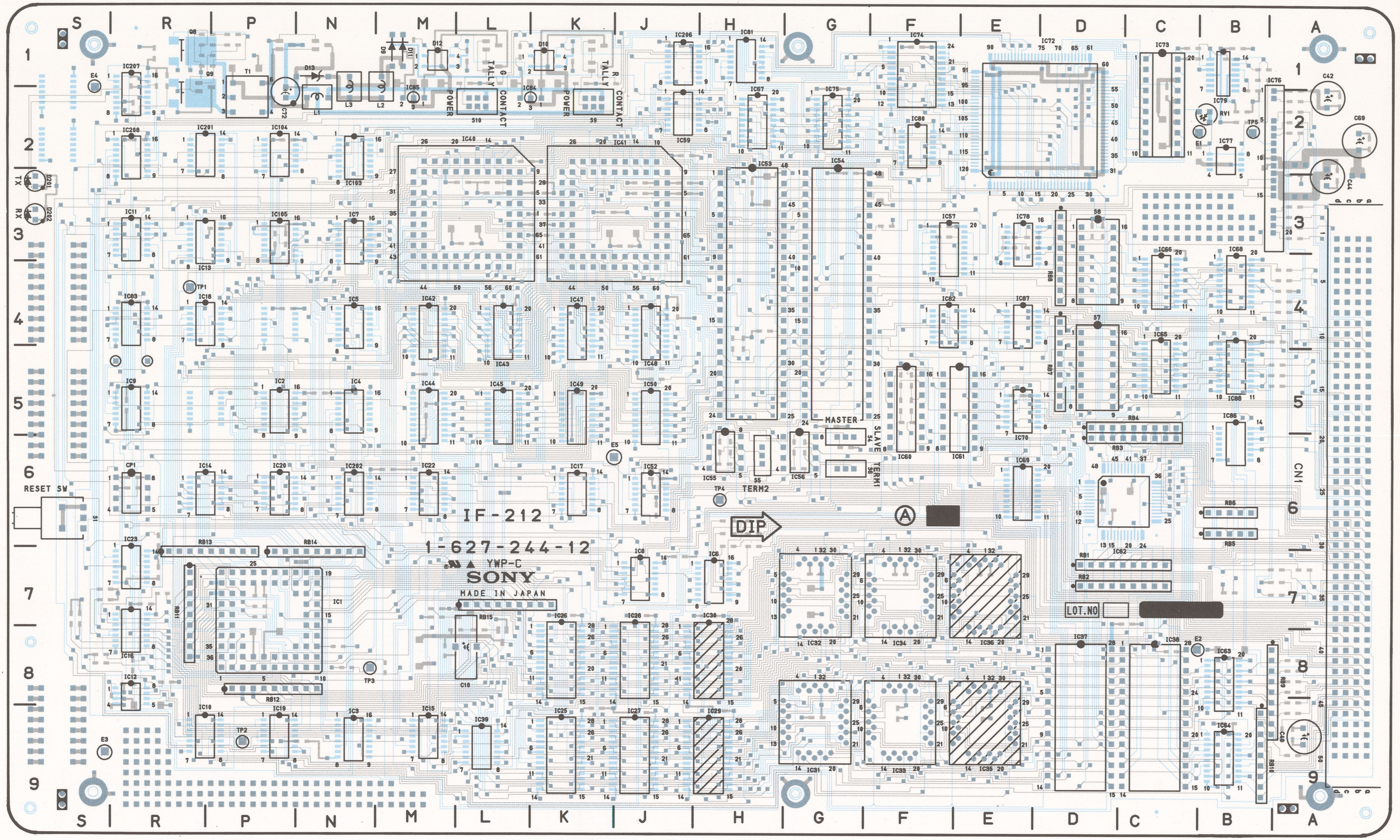


1-627-244-11 COMPONENT SIDE

IF-212 1-627-244-11

CN1	A-6
CP1	R-6
D1	K-1
D2	K-1
D3	L-1
D4	L-1
D5	N-1
D6	P-1
D7	R-1
D9	M-1
D10	K-1
D11	M-1
D12	M-1
D13	N-1
D201	S-3
D202	S-3
E1	A-1
E2	A-9
E3	S-9
E4	R-1
E5	J-6
IC1	P-7
IC2	P-5
IC3	N-8
IC4	N-5
IC5	N-4
IC6	H-7
IC7	N-3
IC8	J-7
IC9	R-5
IC10	R-8
IC11	R-3
IC12	R-8
IC13	R-3
IC14	R-6
IC15	M-8
IC16	R-8
IC17	K-6
IC18	R-4
IC19	P-8
IC20	P-6
IC21	P-4
IC22	M-6
IC23	R-7
IC25	K-9
IC26	K-8
IC27	J-9
IC28	J-8
IC31	G-9
IC32	G-7
IC33	F-9
IC34	F-7
IC37	D-8
IC38	C-8
IC39	L-9
IC40	L-3
IC41	K-3
IC42	M-4
IC43	L-4
IC44	M-5
IC45	L-5
IC47	K-4
IC48	J-4
IC49	K-5
IC50	J-5
IC52	J-6
IC53	H-4
IC54	G-4
IC55	H-6
IC56	G-6
IC57	F-3
IC59	J-2
IC60	F-5
IC61	E-5
IC62	C-7
IC63	B-8
IC64	B-9
IC65	C-5
IC66	C-4
IC67	H-2
IC68	B-4
IC69	E-6
IC70	E-5
IC72	D-1
IC73	C-1
IC74	F-1
IC75	G-2
IC76	A-2
IC77	B-2
IC78	E-3
IC79	B-2
IC80	F-2
IC81	H-1
IC82	F-4
IC83	R-4
IC84	K-2
IC85	M-2
IC86	B-5
IC87	E-4
IC88	B-5
IC103	N-2
IC104	P-2
IC105	P-3
IC201	R-2
IC202	N-6
IC203	R-5
IC204	S-2
IC205	S-1
IC206	J-1
IC207	R-1
IC208	R-2
Q1	L-7
Q2	L-7
Q8	R-1
Q9	R-2
RB1	D-7
RB2	D-7
RB3	C-6
RB4	C-5
RB5	B-6
RB6	B-6
RB7	D-5
RB8	D-4
RB9	A-8
RB10	B-9
RV1	B-2
S1	S-6
S5	H-6
S7	D-4
S8	D-3
S9	K-2
S10	L-2
T1	P-2
TP1	R-4
TP2	P-9
TP3	N-8

IF-212 BOARD Serial No. 10201 – 10310


S
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P
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L
K
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A
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6
7
8
9
TX
RX
RESET SW
TALLY
CONTACT
POWER
IF-212
1-627-244-12
YWP-C
SONY
MADE IN JAPAN
MASTER
SLAVE
TERM1
TERM2
DIP
Ⓐ
LOT.NO
CN1

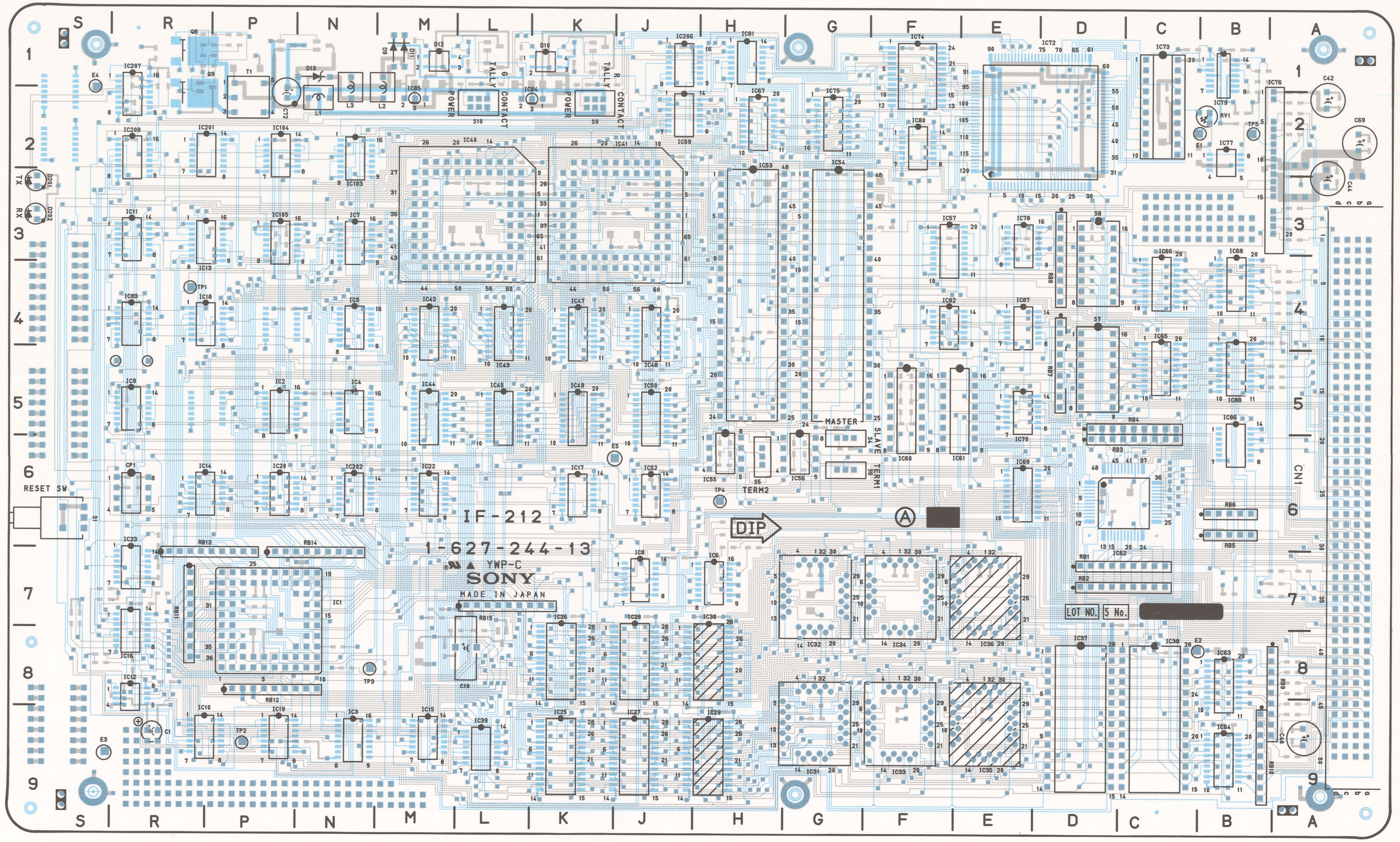
1-627-244-12 COMPONENT SIDE

IF-212 1-627-244-12

CNI1	P-6
CNI31	G-9
CNI32	G-8
CNI33	F-9
CNI34	F-8
CNI40	L-2
CNI41	J-2
CNI53	H-2
CNI54	G-2
CNI73	C-1
CN1	A-6
CP1	R-6
D1	K-1
D2	K-1
D3	L-1
D4	L-1
D5	N-1
D6	P-1
D7	R-1
D9	M-1
D10	K-1
D11	M-1
D12	M-1
D13	N-1
D201	S-3
D202	S-3
E1	C-2
E2	C-3
E3	S-9
E4	S-1
E5	J-6
IC1	N-7
IC2	P-5
IC3	N-8
IC4	N-5
IC5	N-4
IC6	H-7
IC7	N-3
IC8	J-7
IC9	R-5
IC10	R-9
IC11	R-3
IC12	R-8
IC13	R-4
IC14	R-6
IC15	M-9
IC16	R-8
IC17	K-6
IC18	R-4
IC19	P-9
IC20	P-8
IC21	P-4
IC22	M-6
IC23	R-6
IC25	K-9
IC26	K-7
IC27	J-9
IC28	J-7
IC37	D-8
IC38	C-8
IC39	L-9
IC40	L-2
IC41	J-2
IC42	M-4
IC43	L-5
IC44	M-5
IC45	L-5
IC47	K-4
IC48	J-5
IC49	K-5
IC50	J-5
IC52	J-6
IC53	H-2
IC54	G-2
IC55	H-6
IC56	G-6
IC57	F-3
IC59	J-2
IC60	F-6
IC61	E-6
IC62	C-6
IC63	B-8
IC64	B-9
IC65	C-4
IC66	C-3
IC67	H-2
IC68	B-4
IC69	E-6
IC70	E-6
IC72	D-1
IC73	C-1
IC74	F-1
IC75	G-2
IC76	A-1
IC77	B-2
IC78	E-3
IC79	B-2
IC80	F-2
IC81	H-1
IC82	F-4
IC83	R-4
IC84	K-2
IC85	M-2
IC86	B-5
IC87	E-4
IC88	B-5
IC103	N-3
IC104	P-2
IC105	P-3
IC201	R-2
IC202	N-6
IC206	J-1
IC207	R-1
IC208	R-2
Q1	M-7
Q2	L-8
Q8	R-1
Q9	R-2
RB1	D-7
RB2	D-7
RB3	D-6
RB4	C-5
RB5	B-5
RB6	B-6
RB7	D-5
RB8	D-4
RB9	A-8
RB10	B-9
RB11	R-7
RB12	P-8
RB13	R-6
RB14	N-6
RB15	L-7
RV1	B-2
S1	S-6
S4	F-6
S5	H-6
S6	F-6
S7	D-4
S8	D-3
S9	K-2
S10	L-2
TP1	R-4
TP2	P-9
TP3	N-8
TP4	H-6
TP5	B-2
T1	P-1

IF-212 BOARD

Serial No. 10401 –


S
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5
6
7
8
9
TX
RX
RESET SW
TALLY
POWER
CONTACT
MASTER
SLAVE
TERM1
TERM2
DIP
IF-212
1-627-244-13
YWP-C
SONY
MADE IN JAPAN
LOT NO.
S No.
CN1

1-627-244-13 COMPONENT SIDE

IF-212 1-627-244-13

CNI1	P-6
CNI31	G-9
CNI32	G-8
CNI33	F-9
CNI34	F-8
CNI40	L-2
CNI41	J-2
CNI53	H-2
CNI54	G-2
CNI73	C-1
CN1	A-6
CP1	R-6
D1	K-1
D2	K-1
D3	L-1
D4	L-1
D5	N-1
D6	P-1
D7	R-1
D9	M-1
D10	K-1
D11	M-1
D12	M-1
D13	N-1
D201	S-3
D202	S-3
E1	C-2
E2	C-3
E3	S-9
E4	S-1
E5	J-6
IC1	N-7
IC2	P-5
IC3	N-8
IC4	N-5
IC5	N-4
IC6	H-7
IC7	N-3
IC8	J-7
IC9	R-5
IC10	R-9
IC11	R-3
IC12	R-8
IC13	R-4
IC14	R-6
IC15	M-9
IC16	R-8
IC17	K-6
IC18	R-4
IC19	P-9
IC20	P-8
IC21	P-4
IC22	M-6
IC23	R-6
IC25	K-9
IC26	K-7
IC27	J-9
IC28	J-7
IC37	D-8
IC38	C-8
IC39	L-9
IC40	L-2
IC41	J-2
IC42	M-4
IC43	L-5
IC44	M-5
IC45	L-5
IC47	K-4
IC48	J-5
IC49	K-5
IC50	J-5
IC52	J-6
IC53	H-2
IC54	G-2
IC55	H-6
IC56	G-6
IC57	F-3
IC59	J-2
IC60	F-6
IC61	E-6
IC62	C-6
IC63	B-8
IC64	B-9
IC65	C-4
IC66	C-3
IC67	H-2
IC68	B-4
IC69	E-6
IC70	E-6
IC72	D-1
IC73	C-1
IC74	F-1
IC75	G-2
IC76	A-1
IC77	B-2
IC78	E-3
IC79	B-2
IC80	F-2
IC81	H-1
IC82	F-4
IC83	R-4
IC84	K-2
IC85	M-2
IC86	B-5
IC87	E-4
IC88	B-5
IC103	N-3
IC104	P-2
IC105	P-3
IC201	R-2
IC202	N-6
IC206	J-1
IC207	R-1
IC208	R-2
Q1	M-7
Q2	L-8
Q8	R-1
Q9	R-2
RB1	D-7
RB2	D-7
RB3	D-6
RB4	C-5
RB5	B-5
RB6	B-6
RB7	D-5
RB8	D-4
RB9	A-8
RB10	B-9
RB11	R-7
RB12	P-8
RB13	R-6
RB14	N-6
RB15	L-7
RV1	B-2
S1	S-6
S4	F-6
S5	H-6
S6	F-6
S7	D-4
S8	D-3
S9	K-2
S10	L-2
TP1	R-4
TP2	P-9
TP3	N-8
TP4	H-6
TP5	B-2
T1	P-1

IF-212 (1/3) BOARD

RESET
BEC-2
BEC-1
DTACK
BR 1
BR 2
BGACK
V BLK IN
V BLK
EXT BUS
ADDRESS
DATA
X ENB OUT
X SUBA OUT
XB DET
DT-18/19
1
2
3
4
5
6
A
B
C
D
E
F
G
H
M

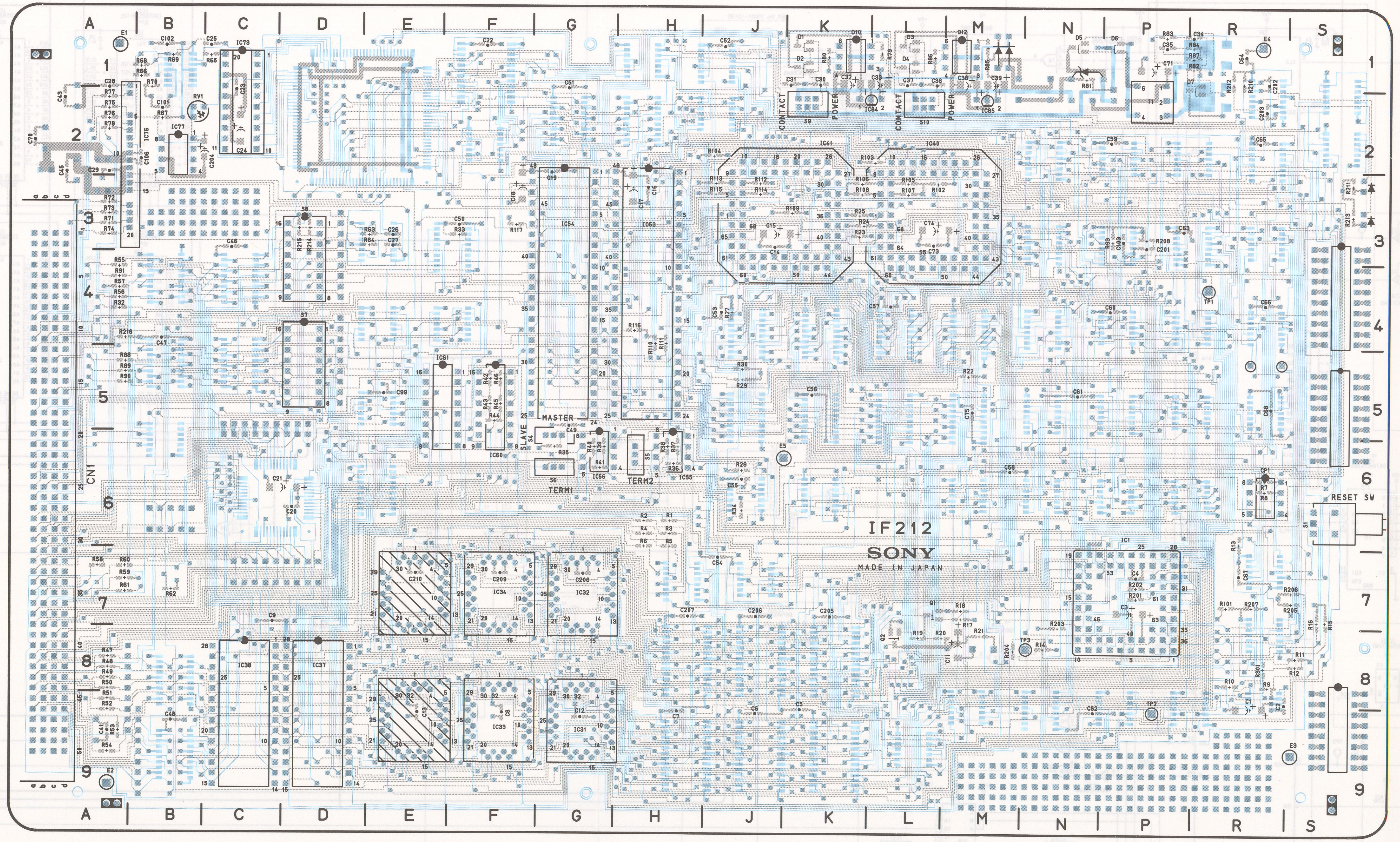
*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	R14	4700 → 820	10101-
*2	IC2	TC74HC85F → SN74HC85NS	10201-
	IC3, 4, 5, 6, 7	TC74HC138F → SN74HC138NS	
	IC8	TC74HC30F → SN74HC30NS	
	IC9	TC74HC164F → SN74HC164NS	
	IC10, 15, 39	TC74HC32F → SN74HC32NS	
	IC11	TC74HC126F → SN74HC126NS	
	IC13, 103, 206,	TC74HC148F → SN74HC148NS	
	IC14	TC74HC20F → SN74HC20NS	
	IC16, 82	TC74HC125F → SN74HC125NS	
	IC17	TC74HC74F → SN74HC74NS	
	IC18, 19 201	TC74HC10F → SN74HC10NS	
	IC20, 23, 83, 202	TC74HC04F → SN74HC04NS	
	IC22, 81	TC74HC08F → SN74HC08NS	
*3	C1, 3, 11, 219	10 16V → 3.3 16V	10401-
	C215	0.1 → 3.3 16V	

IF-212 (1/3) BOARD

IF-212 BOARD

Serial No. 10001 – 10120



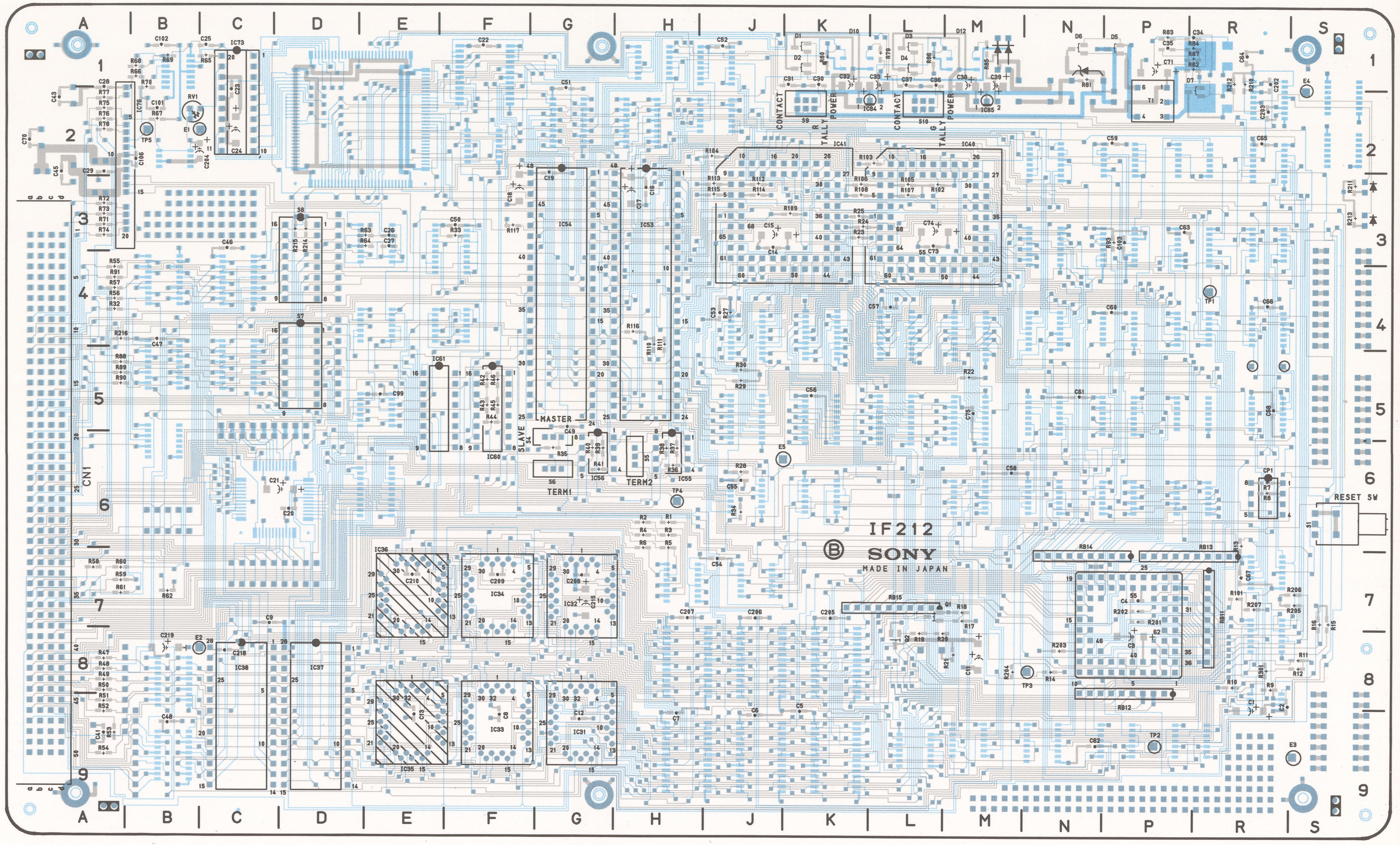
1-627-244-11 SOLDERING SIDE

IF-212 1-627-244-11

CN1	A-6
CP1	R-6
D1	K-1
D2	K-1
D3	L-1
D4	L-1
D5	N-1
D6	P-1
D7	R-1
D9	M-1
D10	K-1
D11	M-1
D12	M-1
D13	N-1
D201	S-3
D202	S-3
E1	A-1
E2	A-9
E3	S-9
E4	R-1
E5	J-6
IC1	P-7
IC2	P-5
IC3	N-8
IC4	N-5
IC5	N-4
IC6	H-7
IC7	N-3
IC8	J-7
IC9	R-5
IC10	R-8
IC11	R-3
IC12	R-8
IC13	R-3
IC14	R-6
IC15	M-8
IC16	R-8
IC17	K-6
IC18	R-4
IC19	P-8
IC20	P-6
IC21	P-4
IC22	M-6
IC23	R-7
IC25	K-9
IC26	K-8
IC27	J-9
IC28	J-8
IC31	G-9
IC32	G-7
IC33	F-9
IC34	F-7
IC37	D-8
IC38	C-8
IC39	L-9
IC40	L-3
IC41	K-3
IC42	M-4
IC43	L-4
IC44	M-5
IC45	L-5
IC47	K-4
IC48	J-4
IC49	K-5
IC50	J-5
IC52	J-6
IC53	H-4
IC54	G-4
IC55	H-6
IC56	G-6
IC57	F-3
IC59	J-2
IC60	F-5
IC61	E-5
IC62	C-7
IC63	B-8
IC64	B-9
IC65	C-5
IC66	C-4
IC67	H-2
IC68	B-4
IC69	E-6
IC70	E-5
IC72	D-1
IC73	C-1
IC74	F-1
IC75	G-2
IC76	A-2
IC77	B-2
IC78	E-3
IC79	B-2
IC80	F-2
IC81	H-1
IC82	F-4
IC83	R-4
IC84	K-2
IC85	M-2
IC86	B-5
IC87	E-4
IC88	B-5
IC103	N-2
IC104	P-2
IC105	P-3
IC201	R-2
IC202	N-6
IC203	R-5
IC204	S-2
IC205	S-1
IC206	J-1
IC207	R-1
IC208	R-2
Q1	L-7
Q2	L-7
Q8	R-1
Q9	R-2
RB1	D-7
RB2	D-7
RB3	C-6
RB4	C-5
RB5	B-6
RB6	B-6
RB7	D-5
RB8	D-4
RB9	A-8
RB10	B-9
RV1	B-2
S1	S-6
S5	H-6
S7	D-4
S8	D-3
S9	K-2
S10	L-2
T1	P-2
TP1	R-4
TP2	P-9
TP3	N-8

IF-212 BOARD

Serial No. 10201 – 10310



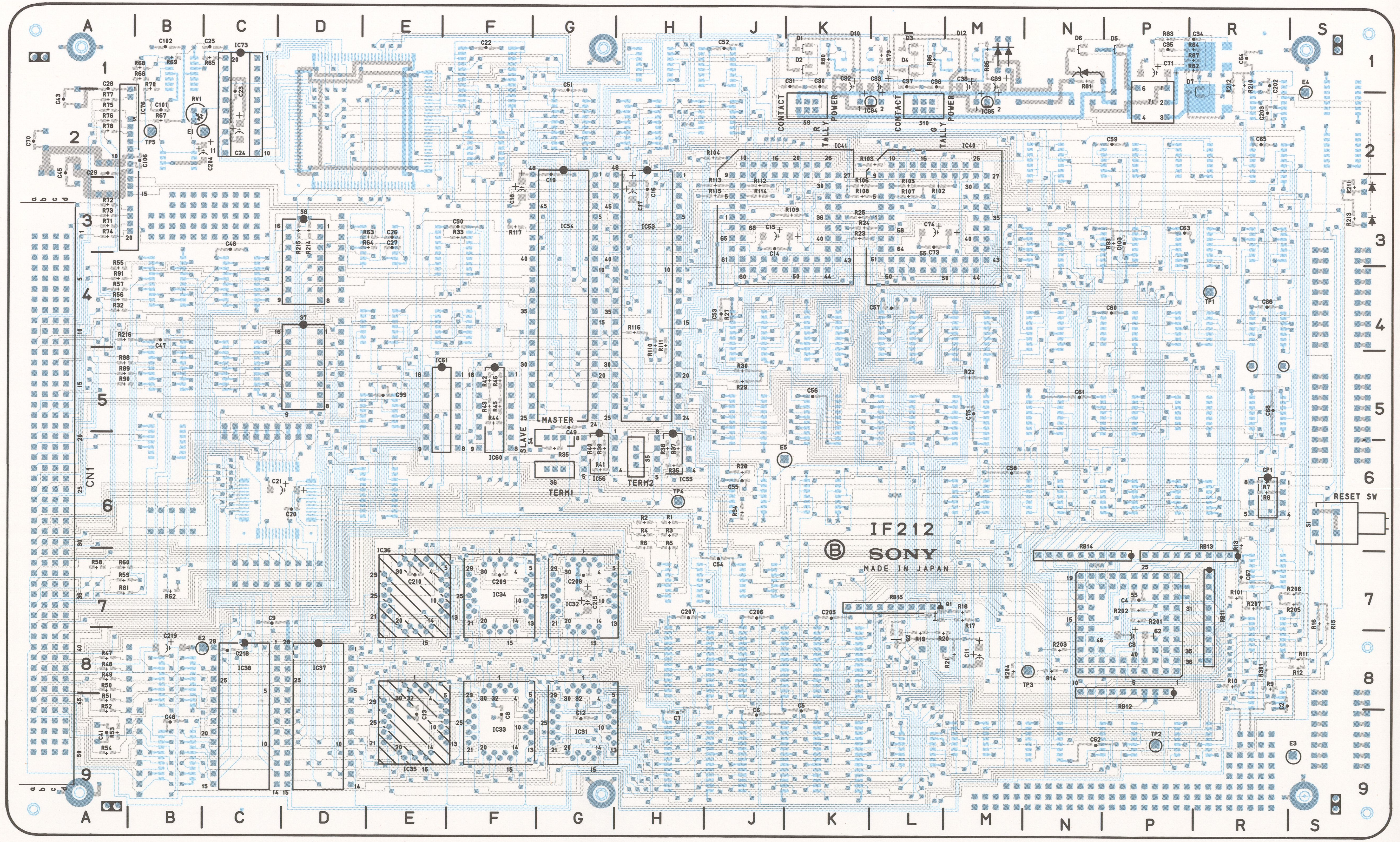
1-627-244-12 SOLDERING SIDE

IF-212 1-627-244-12

CNI1	P-6	IC20	P-8	IC88	B-5
CNI31	G-9	IC21	P-4	IC103	N-3
CNI32	G-8	IC22	M-6	IC104	P-2
CNI33	F-9	IC23	R-6	IC105	P-3
CNI34	F-8	IC25	K-9	IC201	R-2
CNI40	L-2	IC26	K-7	IC202	N-6
CNI41	J-2	IC27	J-9	IC206	J-1
CNI53	H-2	IC28	J-7	IC207	R-1
CNI54	G-2	IC37	D-8	IC208	R-2
CNI73	C-1	IC38	C-8		
		IC39	L-9	Q1	M-7
CN1	A-6	IC40	L-2	Q2	L-8
		IC41	J-2	Q8	R-1
CP1	R-6	IC42	M-4	Q9	R-2
		IC43	L-5		
D1	K-1	IC44	M-5	RB1	D-7
D2	K-1	IC45	L-5	RB2	D-7
D3	L-1	IC47	K-4	RB3	D-6
D4	L-1	IC48	J-5	RB4	C-5
D5	N-1	IC49	K-5	RB5	B-5
D6	P-1	IC50	J-5	RB6	B-6
D7	R-1	IC52	J-6	RB7	D-5
D9	M-1	IC53	H-2	RB8	D-4
D10	K-1	IC54	G-2	RB9	A-8
D11	M-1	IC55	H-6	RB10	B-9
D12	M-1	IC56	G-6	RB11	R-7
D13	N-1	IC57	F-3	RB12	P-8
D201	S-3	IC59	J-2	RB13	R-6
D202	S-3	IC60	F-6	RB14	N-6
		IC61	E-6	RB15	L-7
E1	C-2	IC62	C-6		
E2	C-3	IC63	B-8	RV1	B-2
E3	S-9	IC64	B-9		
E4	S-1	IC65	C-4	S1	S-6
E5	J-6	IC66	C-3	S4	F-6
		IC67	H-2	S5	H-6
IC1	N-7	IC68	B-4	S6	F-6
IC2	P-5	IC69	E-6	S7	D-4
IC3	N-8	IC70	E-6	S8	D-3
IC4	N-5	IC72	D-1	S9	K-2
IC5	N-4	IC73	C-1	S10	L-2
IC6	H-7	IC74	F-1		
IC7	N-3	IC75	G-2	TP1	R-4
IC8	J-7	IC76	A-1	TP2	P-9
IC9	R-5	IC77	B-2	TP3	N-8
IC10	R-9	IC78	E-3	TP4	H-6
IC11	R-3	IC79	B-2	TP5	B-2
IC12	R-8	IC80	F-2		
IC13	R-4	IC81	H-1	T1	P-1
IC14	R-6	IC82	F-4		
IC15	M-9	IC83	R-4		
IC16	R-8	IC84	K-2		
IC17	K-6	IC85	M-2		
IC18	R-4	IC86	B-5		
IC19	P-9	IC87	E-4		

IF-212 BOARD

Serial No. 10401 –

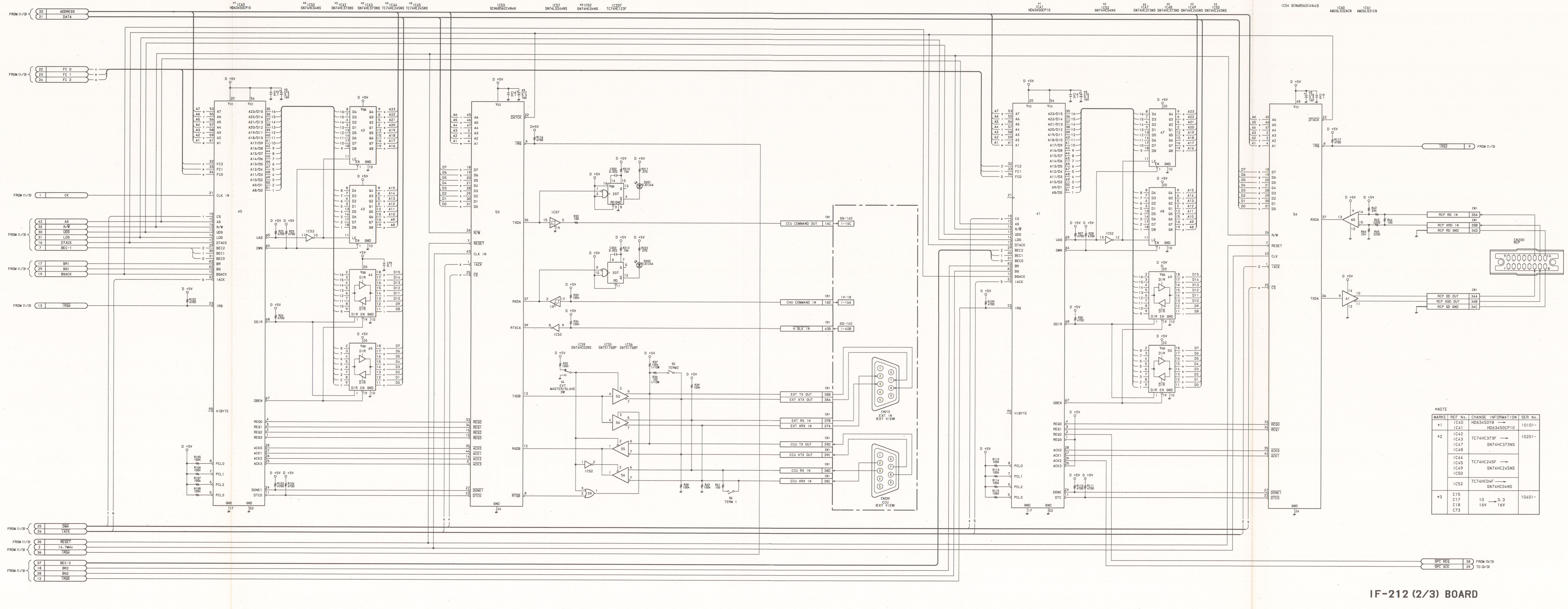


1-627-244-13 SOLDERING SIDE

IF-212 1-627-244-13

CNI1	P-6
CNI31	G-9
CNI32	G-8
CNI33	F-9
CNI34	F-8
CNI40	L-2
CNI41	J-2
CNI53	H-2
CNI54	G-2
CNI73	C-1
CN1	A-6
CP1	R-6
D1	K-1
D2	K-1
D3	L-1
D4	L-1
D5	N-1
D6	P-1
D7	R-1
D9	M-1
D10	K-1
D11	M-1
D12	M-1
D13	N-1
D201	S-3
D202	S-3
E1	C-2
E2	C-3
E3	S-9
E4	S-1
E5	J-6
IC1	N-7
IC2	P-5
IC3	N-8
IC4	N-5
IC5	N-4
IC6	H-7
IC7	N-3
IC8	J-7
IC9	R-5
IC10	R-9
IC11	R-3
IC12	R-8
IC13	R-4
IC14	R-6
IC15	M-9
IC16	R-8
IC17	K-6
IC18	R-4
IC19	P-9
IC20	P-8
IC21	P-4
IC22	M-6
IC23	R-6
IC25	K-9
IC26	K-7
IC27	J-9
IC28	J-7
IC37	D-8
IC38	C-8
IC39	L-9
IC40	L-2
IC41	J-2
IC42	M-4
IC43	L-5
IC44	M-5
IC45	L-5
IC47	K-4
IC48	J-5
IC49	K-5
IC50	J-5
IC52	J-6
IC53	H-2
IC54	G-2
IC55	H-6
IC56	G-6
IC57	F-3
IC59	J-2
IC60	F-6
IC61	E-6
IC62	C-6
IC63	B-8
IC64	B-9
IC65	C-4
IC66	C-3
IC67	H-2
IC68	B-4
IC69	E-6
IC70	E-6
IC72	D-1
IC73	C-1
IC74	F-1
IC75	G-2
IC76	A-1
IC77	B-2
IC78	E-3
IC79	B-2
IC80	F-2
IC81	H-1
IC82	F-4
IC83	R-4
IC84	K-2
IC85	M-2
IC86	B-5
IC87	E-4
IC88	B-5
IC103	N-3
IC104	P-2
IC105	P-3
IC201	R-2
IC202	N-6
IC206	J-1
IC207	R-1
IC208	R-2
Q1	M-7
Q2	L-8
Q8	R-1
Q9	R-2
RB1	D-7
RB2	D-7
RB3	D-6
RB4	C-5
RB5	B-5
RB6	B-6
RB7	D-5
RB8	D-4
RB9	A-8
RB10	B-9
RB11	R-7
RB12	P-8
RB13	R-6
RB14	N-6
RB15	L-7
RV1	B-2
S1	S-6
S4	F-6
S5	H-6
S6	F-6
S7	D-4
S8	D-3
S9	K-2
S10	L-2
TP1	R-4
TP2	P-9
TP3	N-8
TP4	H-6
TP5	B-2
T1	P-1

IF-212 (2/3) BOARD


FROM (1/3)
20 ADDRESS
21 DATA
22 FC 0
23 FC 1
24 FC 2
*1 IC40 HD63450CP10
*2 IC52 SN74HC04NS
*2 IC42 SN74HC373NS
*2 IC43 SN74HC373NS
*2 IC44 TC74HC245NS
*2 IC45 TC74HC245NS
IC53 SCN68562C4N48
IC57 SN74LS244NS
*2 IC52 SN74HC04NS
IC207 TC74HC123F
D +5V
CCU COMMAND OUT
CHU COMMAND IN
H BLK IN
EXT TX OUT
EXT RX IN
CCU VTX OUT
CCU VRX IN
EXT VIEW
CCU VIEW
RCP RD IN
RCP SD OUT
SPC REQ
SPC ACK
IRQ2
FROM (3/3)
TO (3/3)

*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	IC40 IC41	HD63450Y8 → HD63450CP10	10101-
*2	IC42 IC43 IC47 IC48	TC74HC373F → SN74HC373NS	10201-
	IC44 IC45 IC49 IC50	TC74HC245F → SN74HC245NS	
	IC52	TC74HC04F → SN74HC04NS	
*3	C15 C17 C18 C73	10 16V → 3.3 16V	10401-

IF-212 (2/3) BOARD

FROM 11/3I
ADDRESS
DATA
RESET
TO 11/3I
TRIG3
SPCACK
SPC REQ
EXT BUS
L RD
DMA
CK
CONTROL UNIT
EXT VIEW
FAN
P/C MONI TALLY
R TALLY SEL
DTACK
V BLK
V BLK IN
+5V
GND
-9V
1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M
C-153
C-154
C-155
C-156

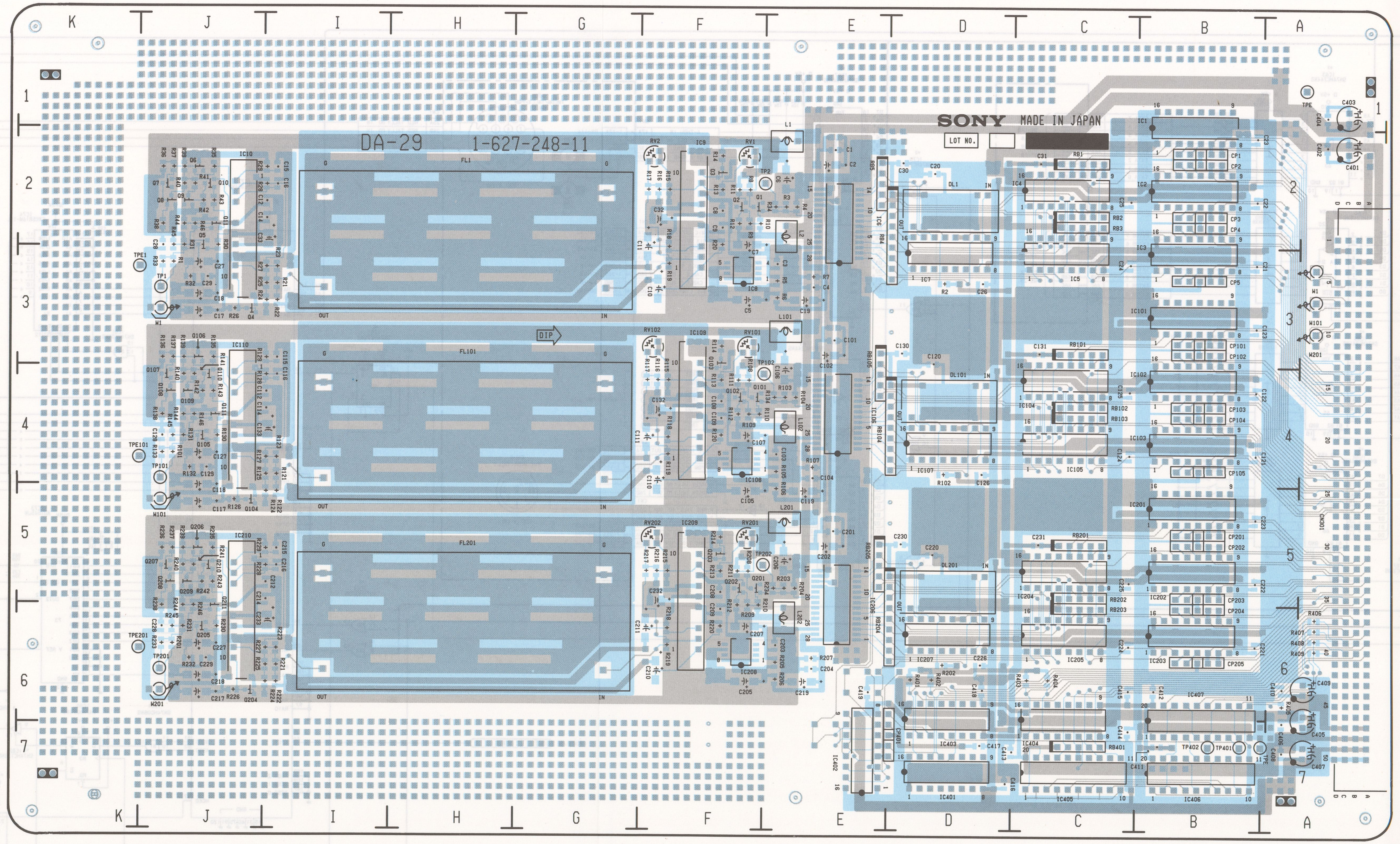
*NOTE

MARKE	REF No.	CHANGE INFORMATION	SER No.
*1	IC76	BX1179 → BH1253	10101-
*2	D10 D12	PS2002B → PS2703-1	10201-
	IC52	TC74HC04F → SN74HC04NS	
	IC59	TC74HC02F → SN74HC02NS	
	IC63, 65, 66, 67, 69	TC74HC244F → SN74HC244NS	
	IC64, 75	TC74HC245F → SN74HC245NS	
	IC68, 88	TC74HC374F → SN74HC374NS	
	IC70, 87	TC74HC32F → SN74HC32NS	
	IC77	TL431CP → TL431CPS	
	IC80	TC74HC74F → SN74HC74NS	
	IC81	TC74HC08F → SN74HC08NS	
	IC82	TC74HC125F → NS74HC125NS	
*3	C21, 24, 71	10 16V → 3.3 16V	10401-

IF-212 (3/3) BOARD

DA-29 BOARD

Serial No. 10001 – 10120



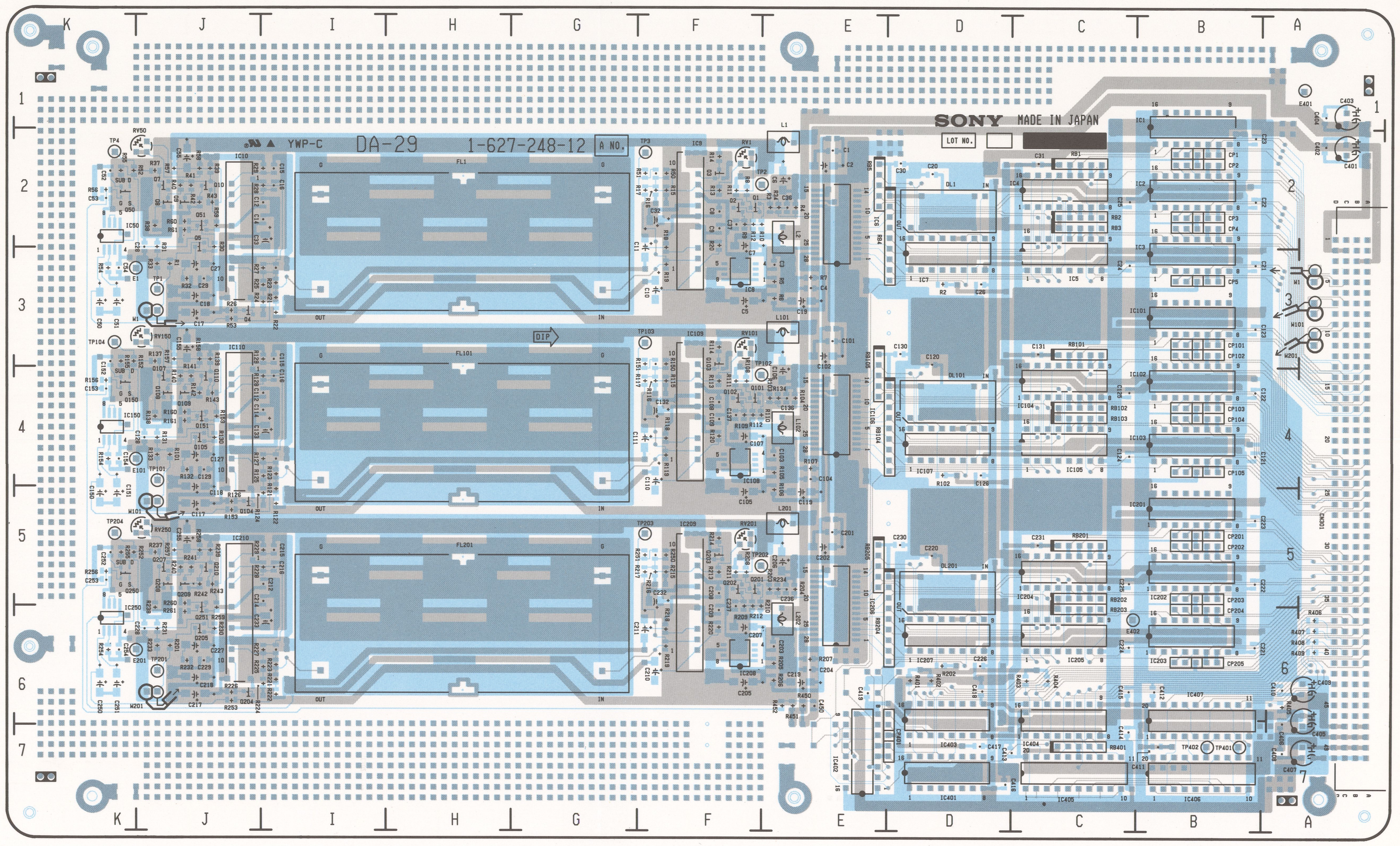
1-627-248-11 COMPONENT SIDE

DA-29 1-627-248-11

CN301	A-5	IC405	C-7	RV102	F-3
		IC406	B-7	RV201	F-5
CP1	B-2	IC407	B-6	RV202	F-5
CP2	B-2				
CP3	B-2	Q1	F-2	TP1	J-3
CP4	B-2	Q2	F-2	TP2	F-2
CP5	B-3	Q4	J-3	TP101	J-4
CP101	B-3	Q5	J-2	TP102	F-4
CP102	B-3	Q6	J-2	TP201	J-6
CP103	B-4	Q7	J-2	TP202	F-5
CP104	B-4	Q8	J-2	TP401	B-7
CP105	B-4	Q9	J-2	TP402	B-7
CP201	B-5	Q10	J-2		
CP202	B-5	Q11	J-2	TPE	A-1
CP203	B-5	Q101	F-4	TPE1	J-3
CP204	B-5	Q102	F-4	TPE11	B-7
CP205	B-6	Q104	J-5	TPE101	J-4
CP401	D-7	Q105	J-4	TPE201	J-6
		Q106	J-3		
DL1	D-2	Q107	J-4	W1	A-3
DL101	D-4	Q108	J-4	W101	A-3
DL201	D-5	Q109	J-4	W201	A-3
		Q110	J-4		
IC1	B-1	Q111	J-4		
IC2	B-2	Q201	F-5		
IC3	B-3	Q202	F-5		
IC4	C-2	Q204	J-6		
IC5	C-3	Q205	J-6		
IC7	D-3	Q206	J-5		
IC8	F-3	Q207	J-5		
IC10	J-2	Q208	J-5		
IC101	B-3	Q209	J-5		
IC102	B-4	Q210	J-5		
IC103	B-4	Q211	J-6		
IC104	C-4				
IC105	C-4	RB1	C-2		
IC106	E-4	RB2	C-2		
IC107	D-4	RB3	C-2		
IC108	F-4	RB4	D-2		
IC109	F-3	RB5	E-2		
IC110	J-4	RB101	C-3		
IC201	B-5	RB102	C-4		
IC202	B-5	RB103	C-4		
IC203	B-6	RB104	D-4		
IC204	C-5	RB105	E-3		
IC205	C-6	RB201	C-5		
IC206	E-5	RB202	C-5		
IC207	D-6	RB203	C-5		
IC208	F-6	RB204	D-6		
IC209	F-5	RB205	E-5		
IC210	J-5	RB401	C-7		
IC401	D-7				
IC402	E-7	RV1	F-2		
IC403	D-6	RV2	F-2		
IC404	C-7	RV101	F-3		

DA-29 BOARD

Serial No. 10201 –



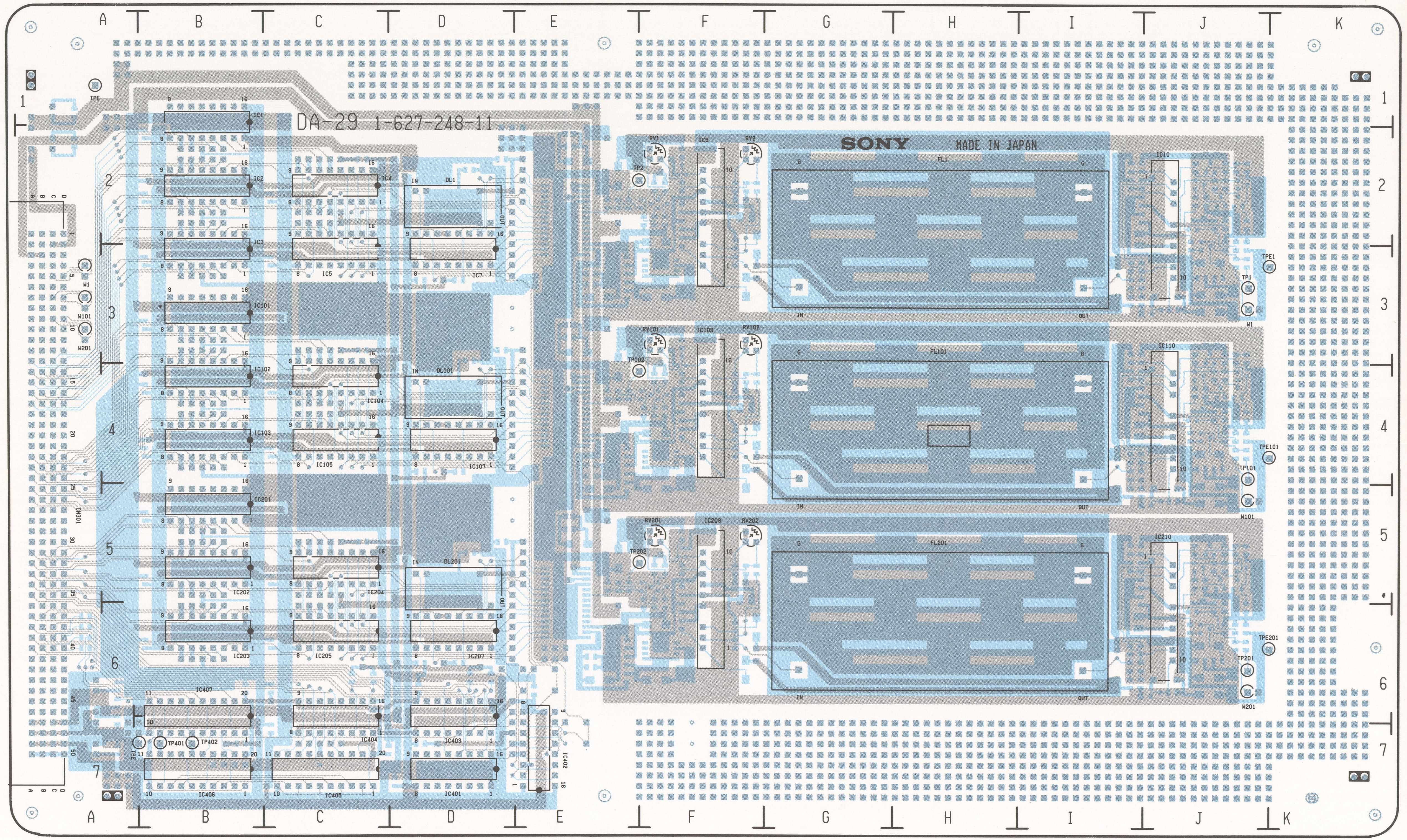
1-627-248-12 COMPONENT SIDE

DA-29 1-627-248-12

CN301	A-5
CP1	B-2
CP2	B-2
CP3	B-2
CP4	B-2
CP5	B-3
CP101	B-3
CP102	B-3
CP103	B-4
CP104	B-4
CP105	B-4
CP201	B-5
CP202	B-5
CP203	B-5
CP204	B-6
CP205	B-6
CP401	D-7
DL1	D-2
DL101	D-4
DL201	D-5
E1	K-3
E101	K-4
E201	K-6
E401	A-1
E402	B-6
FL1	H-2
FL101	H-4
FL201	H-5
IC1	B-1
IC2	B-2
IC3	B-3
IC4	C-2
IC5	C-3
IC6	E-2
IC7	D-3
IC8	F-3
IC9	F-2
IC10	J-2
IC50	K-2
IC101	B-3
IC102	B-4
IC103	B-4
IC104	C-4
IC105	C-4
IC106	E-4
IC107	D-4
IC108	F-4
IC109	F-3
IC110	J-3
IC150	K-4
IC201	B-5
IC202	B-5
IC203	B-6
IC204	C-5
IC205	C-6
IC206	E-5
IC207	D-6
IC208	F-6
IC209	F-5
IC210	J-5
IC250	K-6
IC401	D-7
IC402	E-7
IC403	D-7
IC404	C-7
IC405	C-7
IC406	B-7
IC407	B-6
L1	E-2
L2	E-2
L101	E-3
L102	E-4
L201	E-5
L202	E-6
Q1	F-2
Q2	F-2
Q3	F-2
Q4	J-3
Q5	J-2
Q7	J-2
Q8	J-2
Q9	J-2
Q10	J-2
Q50	K-2
Q51	J-2
Q101	F-4
Q102	F-4
Q103	F-3
Q104	J-5
Q105	J-4
Q107	J-4
Q108	J-4
Q109	J-4
Q110	J-4
Q150	K-4
Q151	J-4
Q201	F-5
Q202	F-5
Q203	F-5
Q204	J-6
Q205	J-6
Q207	J-5
Q208	J-5
Q209	J-5
Q210	J-5
Q250	K-5
Q251	J-6
RB1	C-1
RB2	C-2
RB3	C-2
RB4	E-2
RB5	E-2
RB101	C-3
RB102	C-4
RB103	C-4
RB104	E-4
RB105	E-3
RB201	C-5
RB202	C-5
RB203	C-6
RB204	E-6
RB205	E-5
RB401	C-7
RV1	F-2
RV50	J-2
RV101	F-3
RV150	J-3
RV201	F-5
RV250	J-5
TP1	J-3
TP2	F-2
TP3	F-2
TP4	K-2
TP101	J-4
TP102	F-4
TP103	F-3
TP104	K-3
TP201	J-6
TP202	F-5
TP203	F-5
TP204	K-5
TP401	B-7
TP402	B-7

DA-29 BOARD

Serial No. 10001 – 10120


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
DA-29 1-627-248-11
SONY
MADE IN JAPAN
FL1
FL101
FL201
IN
OUT
IC1
IC2
IC3
IC4
IC5
IC7
IC8
IC10
IC101
IC102
IC103
IC104
IC105
IC107
IC109
IC110
IC201
IC202
IC203
IC204
IC205
IC207
IC209
IC210
IC401
IC402
IC403
IC404
IC405
IC406
IC407
DL1
DL101
DL201
RV1
RV2
RV101
RV102
RV201
RV202
TP1
TP2
TP101
TP102
TP201
TP202
TP401
TP402
TPE
TPE1
TPE101
TPE201
W1
W101
W201
CN301

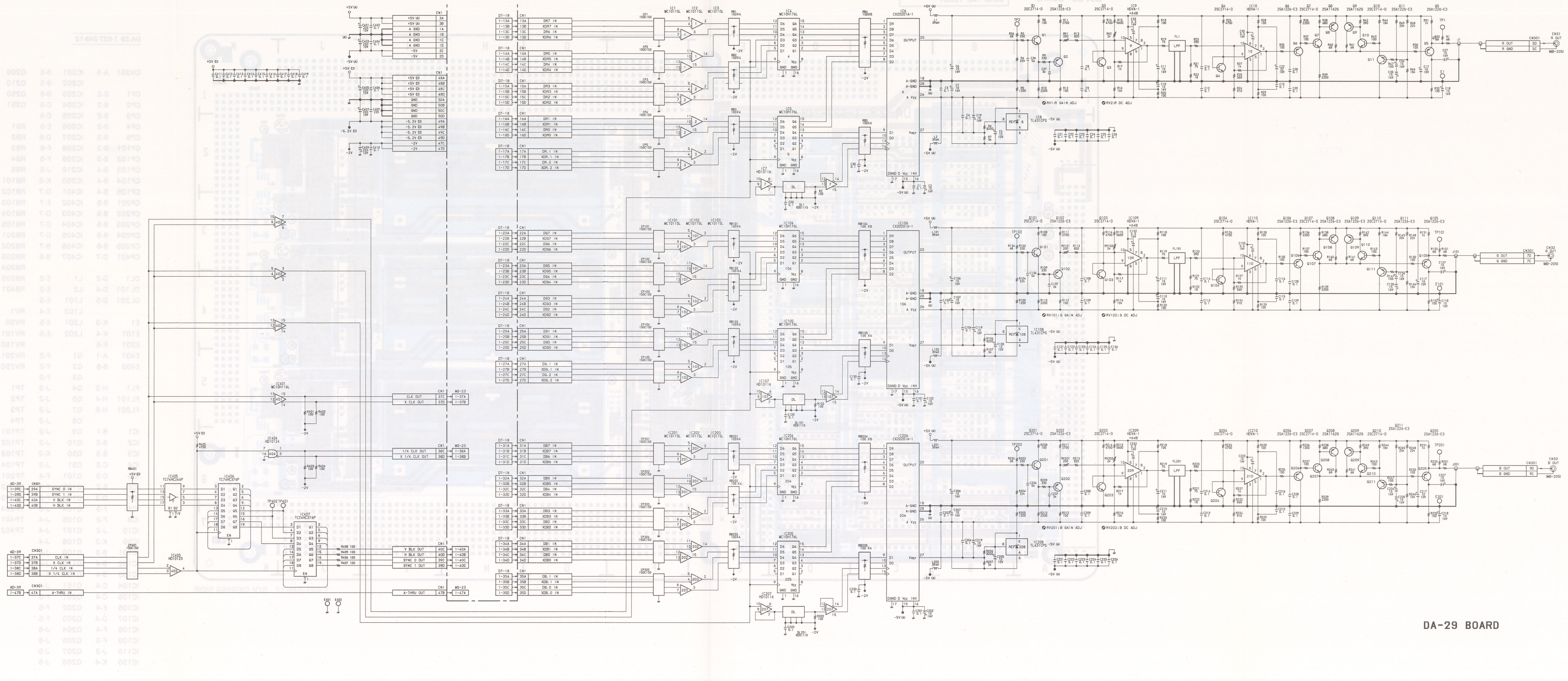
1-627-248-11 SOLDERING SIDE

DA-29 1-627-248-11

CN301	A-5
CP1	B-2
CP2	B-2
CP3	B-2
CP4	B-2
CP5	B-3
CP101	B-3
CP102	B-3
CP103	B-4
CP104	B-4
CP105	B-4
CP201	B-5
CP202	B-5
CP203	B-5
CP204	B-5
CP205	B-6
CP401	D-7
DL1	D-2
DL101	D-4
DL201	D-5
IC1	B-1
IC2	B-2
IC3	B-3
IC4	C-2
IC5	C-3
IC7	D-3
IC8	F-3
IC10	J-2
IC101	B-3
IC102	B-4
IC103	B-4
IC104	C-4
IC105	C-4
IC106	E-4
IC107	D-4
IC108	F-4
IC109	F-3
IC110	J-4
IC201	B-5
IC202	B-5
IC203	B-6
IC204	C-5
IC205	C-6
IC206	E-5
IC207	D-6
IC208	F-6
IC209	F-5
IC210	J-5
IC401	D-7
IC402	E-7
IC403	D-6
IC404	C-7
IC405	C-7
IC406	B-7
IC407	B-6
Q1	F-2
Q2	F-2
Q4	J-3
Q5	J-2
Q6	J-2
Q7	J-2
Q8	J-2
Q9	J-2
Q10	J-2
Q11	J-2
Q101	F-4
Q102	F-4
Q104	J-5
Q105	J-4
Q106	J-3
Q107	J-4
Q108	J-4
Q109	J-4
Q110	J-4
Q111	J-4
Q201	F-5
Q202	F-5
Q204	J-6
Q205	J-6
Q206	J-5
Q207	J-5
Q208	J-5
Q209	J-5
Q210	J-5
Q211	J-6
RB1	C-2
RB2	C-2
RB3	C-2
RB4	D-2
RB5	E-2
RB101	C-3
RB102	C-4
RB103	C-4
RB104	D-4
RB105	E-3
RB201	C-5
RB202	C-5
RB203	C-5
RB204	D-6
RB205	E-5
RB401	C-7
RV1	F-2
RV2	F-2
RV101	F-3
RV102	F-3
RV201	F-5
RV202	F-5
TP1	J-3
TP2	F-2
TP101	J-4
TP102	F-4
TP201	J-6
TP202	F-5
TP401	B-7
TP402	B-7
TPE	A-1
TPE1	J-3
TPE11	B-7
TPE101	J-4
TPE201	J-6
W1	A-3
W101	A-3
W201	A-3

DA-29 BOARD

Serial No. 10001-10120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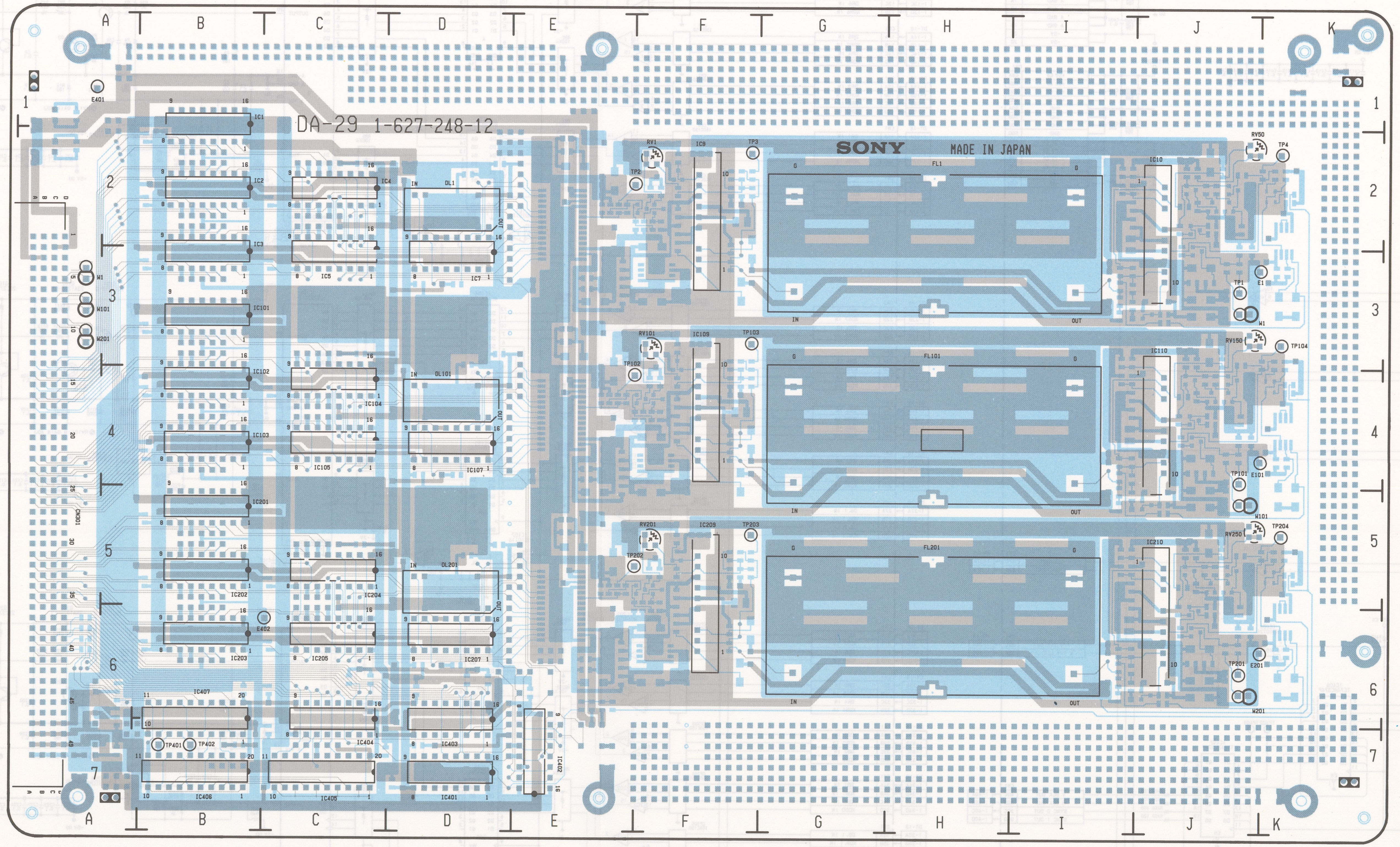
G OUT
B OUT
CLK OUT
X CLK OUT
X 1/4 CLK OUT
A-THRU OUT
SYNC X IN
X CLK IN
X BLK IN
H BLK IN
LPF
DL
1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M

DA-29 BOARD

DA-29 BOARD Serial No. 10201 –



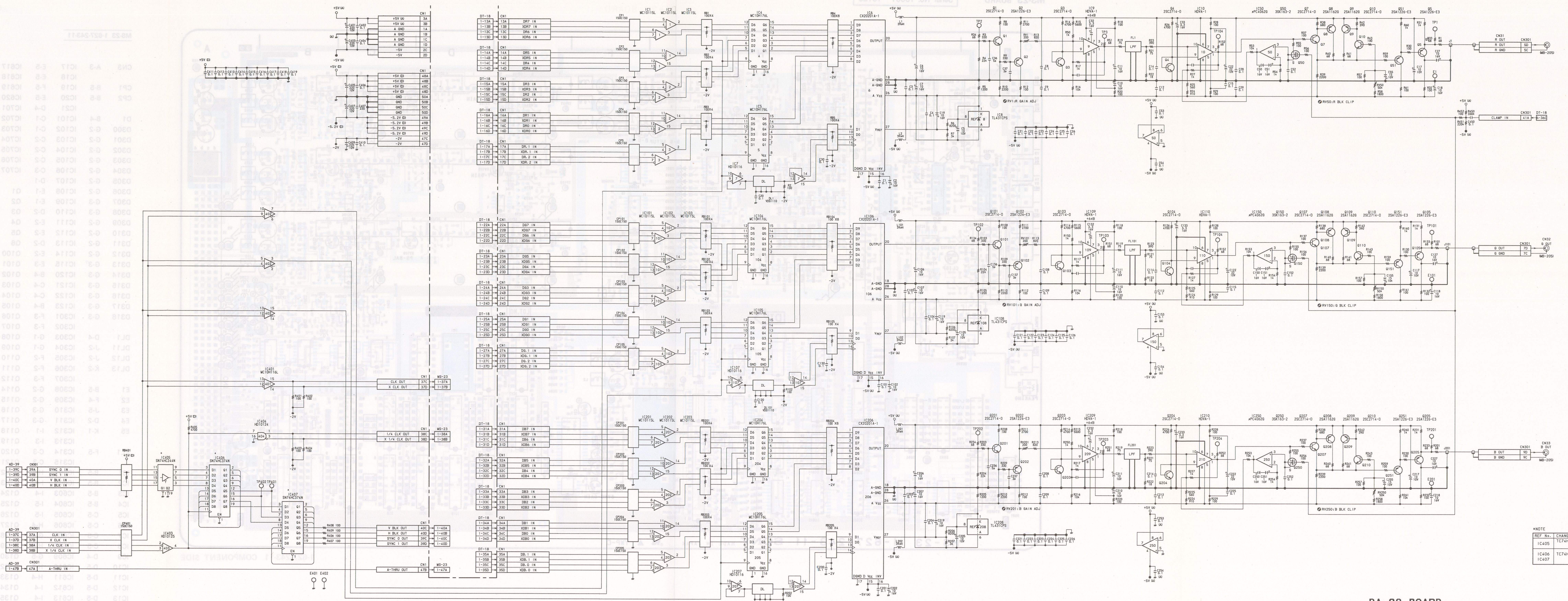
1-627-248-12 SOLDERING SIDE

DA-29 1-627-248-12

CN301	A-5	IC201	B-5	Q209	J-5
		IC202	B-5	Q210	J-5
CP1	B-2	IC203	B-6	Q250	K-5
CP2	B-2	IC204	C-5	Q251	J-6
CP3	B-2	IC205	C-6		
CP4	B-2	IC206	E-5	RB1	C-1
CP5	B-3	IC207	D-6	RB2	C-2
CP101	B-3	IC208	F-6	RB3	C-2
CP102	B-3	IC209	F-5	RB4	E-2
CP103	B-4	IC210	J-5	RB5	E-2
CP104	B-4	IC250	K-6	RB101	C-3
CP105	B-4	IC401	D-7	RB102	C-4
CP201	B-5	IC402	E-7	RB103	C-4
CP202	B-5	IC403	D-7	RB104	E-4
CP203	B-5	IC404	C-7	RB105	E-3
CP204	B-6	IC405	C-7	RB201	C-5
CP205	B-6	IC406	B-7	RB202	C-5
CP401	D-7	IC407	B-6	RB203	C-6
				RB204	E-6
DL1	D-2	L1	E-2	RB205	E-5
DL101	D-4	L2	E-2	RB401	C-7
DL201	D-5	L101	E-3		
		L102	E-4	RV1	F-2
E1	K-3	L201	E-5	RV50	J-2
E101	K-4	L202	E-6	RV101	F-3
E201	K-6			RV150	J-3
E401	A-1	Q1	F-2	RV201	F-5
E402	B-6	Q2	F-2	RV250	J-5
		Q3	F-2		
FL1	H-2	Q4	J-3	TP1	J-3
FL101	H-4	Q5	J-2	TP2	F-2
FL201	H-5	Q7	J-2	TP3	F-2
		Q8	J-2	TP4	K-2
IC1	B-1	Q9	J-2	TP101	J-4
IC2	B-2	Q10	J-2	TP102	F-4
IC3	B-3	Q50	K-2	TP103	F-3
IC4	C-2	Q51	J-2	TP104	K-3
IC5	C-3	Q101	F-4	TP201	J-6
IC6	E-2	Q102	F-4	TP202	F-5
IC7	D-3	Q103	F-3	TP203	F-5
IC8	F-3	Q104	J-5	TP204	K-5
IC9	F-2	Q105	J-4	TP401	B-7
IC10	J-2	Q107	J-4	TP402	B-7
IC50	K-2	Q108	J-4		
IC101	B-3	Q109	J-4		
IC102	B-4	Q110	J-4		
IC103	B-4	Q150	K-4		
IC104	C-4	Q151	J-4		
IC105	C-4	Q201	F-5		
IC106	E-4	Q202	F-5		
IC107	D-4	Q203	F-5		
IC108	F-4	Q204	J-6		
IC109	F-3	Q205	J-6		
IC110	J-3	Q207	J-5		
IC150	K-4	Q208	J-5		

DA-29 BOARD

Serial No.10201-


DA-29 BOARD
RV1 GAIN ADJ
RV50 BLK CLIP
RV101 GAIN ADJ
RV150 BLK CLIP
RV201 GAIN ADJ
RV250 BLK CLIP
CLK OUT
X CLK OUT
1/4 CLK OUT
X 1/4 CLK OUT
Y BLK OUT
H BLK OUT
SYNC O OUT
SYNC 1 OUT
A-THRU OUT
SYNC 0 IN
SYNC 1 IN
V BLK IN
H BLK IN
CLK IN
X CLK IN
1/4 CLK IN
X 1/4 CLK IN
A-THRU IN
R OUT
G OUT
B OUT
CLAMP IN
LPF
DL
MB-23
1
2
3
4
5
6

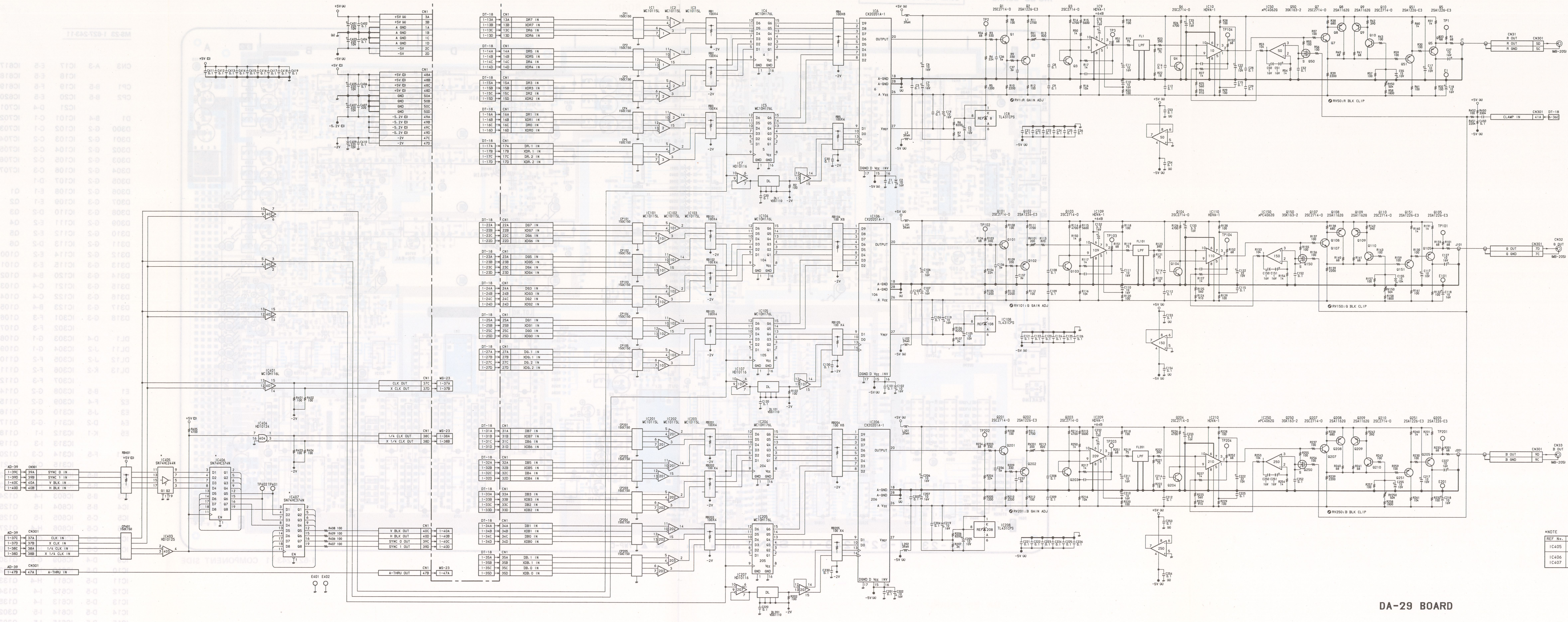
*NOTE

REF No.	CHANGE INFORMATION	SER No.
IC405	TC74HC244P → SN74HC244N	10401-
IC406 IC407	TC74HC374P → SN74HC374N	

DA-29 BOARD

DA-29 BOARD

Serial No. 10201-


AD-39
CN301
1-39C 39A SYNC 0 IN
1-39D 39B SYNC 1 IN
1-40C 40A V BLK IN
1-40D 40B H BLK IN
1-37C 37A CLK IN
1-37D 37B X CLK IN
1-38C 38A 1/4 CLK IN
1-38D 38B X 1/4 CLK IN
1-47B 47A A-THRU IN
RB401
+5V (D)
CP401 150C150
IC405 SN74HC244N
IC406 SN74HC374N
IC403 HD10125
IC404 HD10124
R405 4700
TP402 TP401
CN31 R OUT
CN301
R OUT 5D
R GND 5C
(MB-205)
Q5 2SA1226-E3
TP1
E1
+5V (A)
-5V (A)
CLAMP IN 41A
DT-18 6-36C
RV1 R GAIN ADJ
RV50 R BLK CLIP
RV101 G GAIN ADJ
RV150 G BLK CLIP
RV201 B GAIN ADJ
RV250 B BLK CLIP
LPF
DL
1
2
3
4
5
6

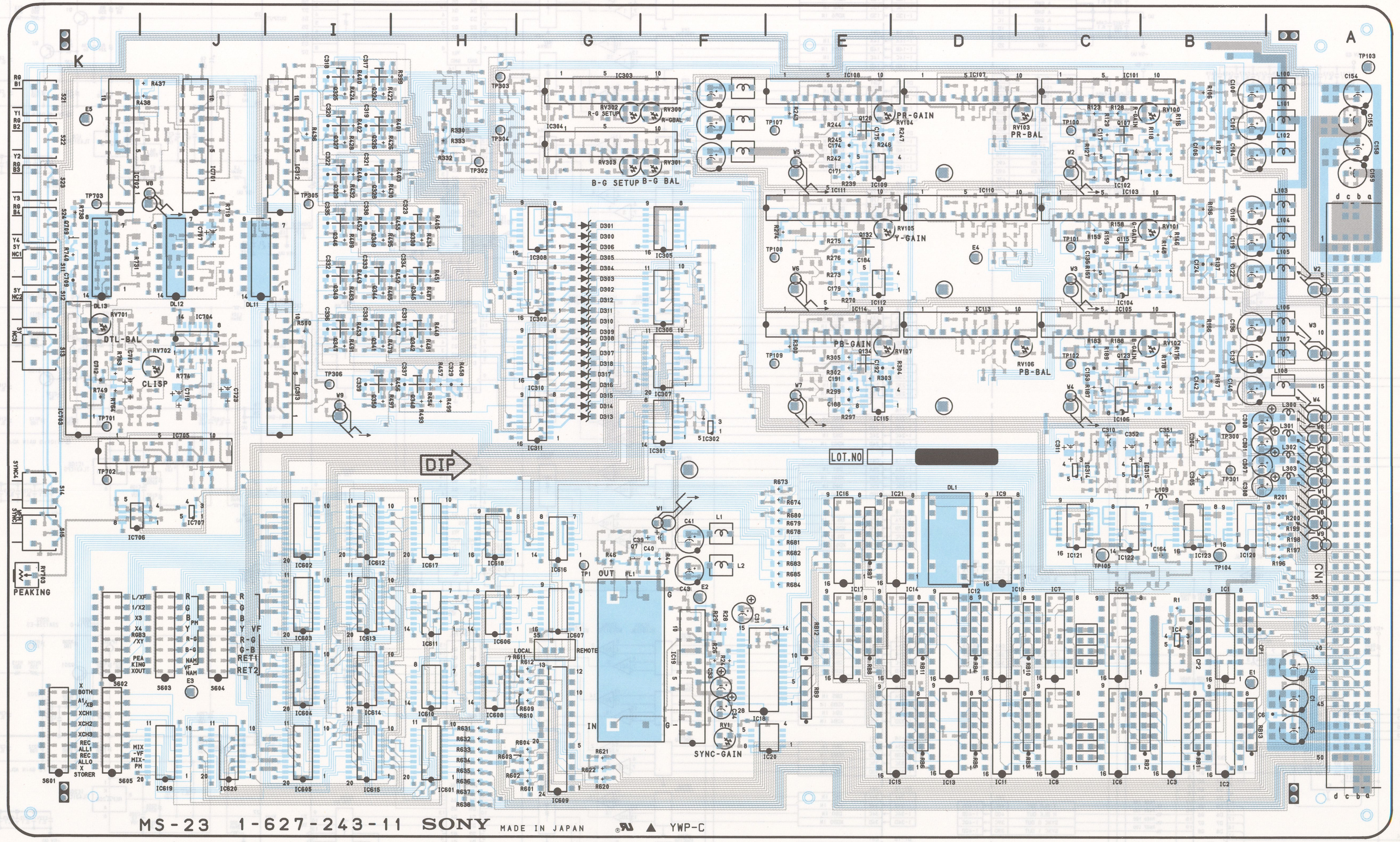
DA-29 BOARD

*NOTE

REF No.	CHANGE INFORMATION	SER No.
IC405	TC74HC244P → SN74HC244N	10401-
IC406 IC407	TC74HC374P → SN74HC374N	

MS-23 BOARD

Serial No. 10001 – 10120

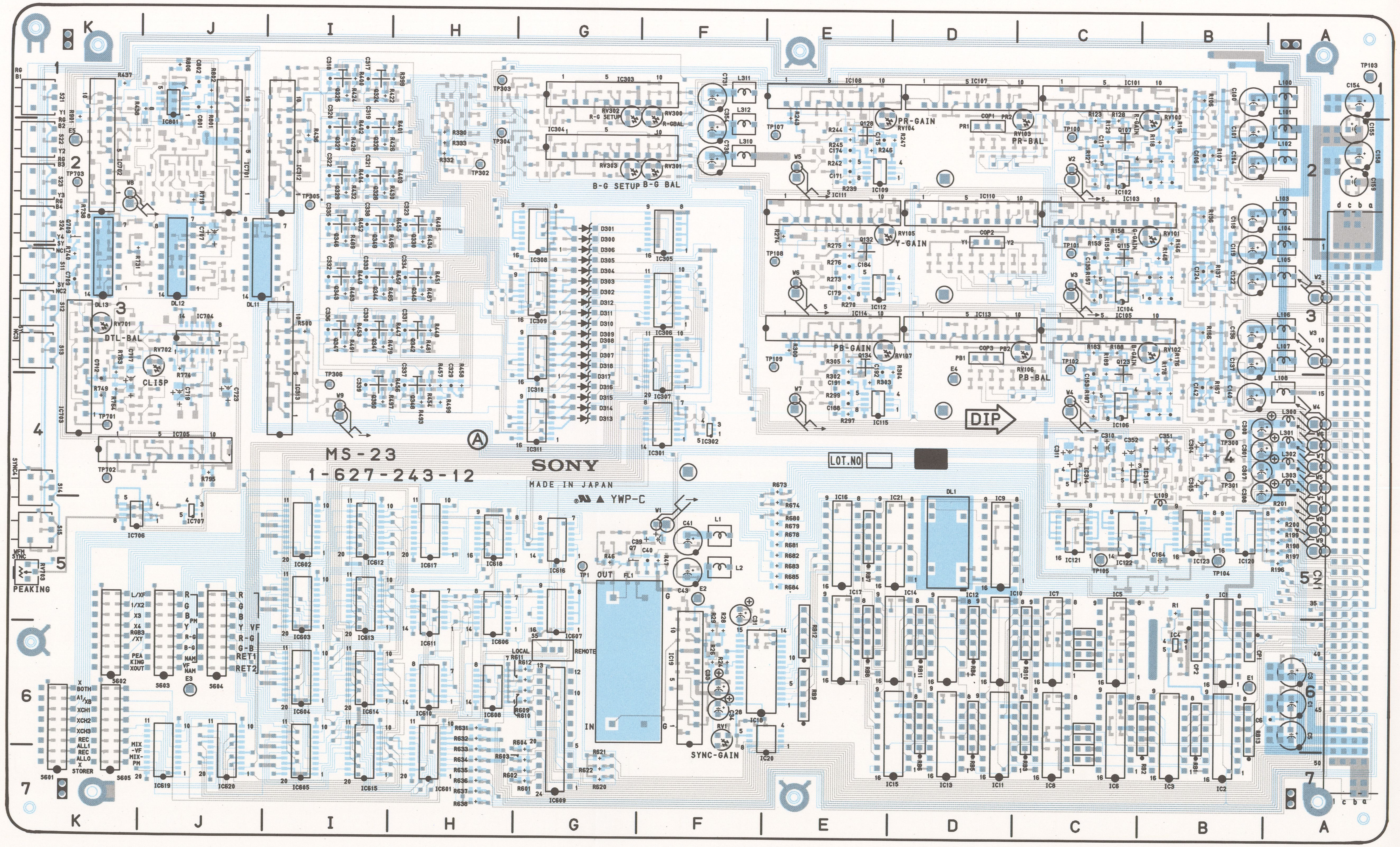


1-627-243-11 COMPONENT SIDE

MS-23 1-627-243-11

CN3	A-3	IC17	E-5	IC617	H-4	Q305	H-1	Q708	K-2	TP1	G-4
		IC18	E-5	IC618	H-4	Q306	H-1	Q710	K-2	TP100	C-1
CP1	B-5	IC19	F-5	IC619	J-5	Q308	B-3	Q711	K-3	TP101	C-2
CP2	B-5	IC20	E-5	IC620	J-5	Q309	C-3	Q712	K-3	TP102	C-3
		IC21	D-4	IC701	J-1	Q310	C-3	Q713	K-3	TP103	A-1
D1	B-4	IC101	C-1	IC702	K-1	Q311	G-1	Q714	J-3	TP104	B-4
D300	G-2	IC102	C-1	IC703	K-3	Q312	G-1			TP105	C-4
D301	G-2	IC103	C-2	IC704	J-3	Q313	G-1	RB1	B-5	TP107	E-1
D302	G-2	IC104	C-2	IC705	J-3	Q314	G-1	RB2	B-5	TP108	E-2
D303	G-2	IC105	C-2	IC706	K-4	Q315	H-1	RB3	C-5	TP109	E-3
D304	G-2	IC106	C-3	IC707	J-4	Q316	H-1	RB4	D-5	TP300	B-3
D305	G-2	IC107	D-1			Q317	H-1	RB5	D-5	TP301	B-3
D306	G-2	IC108	E-1	Q1	B-5	Q318	I-1	RB6	D-5	TP302	H-1
D307	G-3	IC109	E-1	Q2	F-5	Q319	H-1	RB7	E-4	TP303	H-1
D308	G-3	IC110	D-2	Q3	F-4	Q320	I-1	RB8	E-5	TP304	H-1
D309	G-2	IC111	E-2	Q4	F-4	Q321	H-1	RB9	E-5	TP305	I-2
D310	G-2	IC112	E-2	Q5	G-4	Q322	I-1	RB10	C-5	TP306	I-3
D311	G-2	IC113	D-2	Q6	G-4	Q323	H-2	RB11	D-5	TP701	K-3
D312	G-2	IC114	E-2	Q100	B-1	Q324	I-1	RB12	E-5	TP702	K-3
D313	G-3	IC115	E-3	Q101	B-1	Q325	I-1	RB13	B-5	TP703	K-2
D314	G-3	IC120	B-4	Q102	B-1	Q326	I-1				
D315	G-3	IC121	C-4	Q103	B-1	Q327	I-1	RV1	F-5		
D316	G-3	IC122	C-4	Q104	B-1	Q328	I-1	RV100	B-1		
D317	G-3	IC123	B-4	Q105	B-1	Q329	I-1	RV101	B-2		
D318	G-3	IC301	F-3	Q106	B-1	Q330	H-2	RV102	B-3		
		IC302	F-3	Q107	C-1	Q331	H-2	RV103	C-1		
DL1	D-4	IC303	G-1	Q108	B-2	Q332	H-2	RV104	E-1		
DL11	J-2	IC304	G-1	Q109	B-2	Q333	I-2	RV105	E-2		
DL12	J-2	IC305	F-2	Q110	B-2	Q334	H-2	RV106	C-3		
DL13	K-2	IC306	F-2	Q111	B-2	Q335	H-2	RV107	E-3		
		IC307	F-3	Q112	B-2	Q336	I-2	RV300	F-1		
E1	B-5	IC308	G-2	Q114	B-2	Q337	I-2	RV301	F-1		
E2	F-4	IC309	G-2	Q115	C-2	Q338	H-3	RV302	G-1		
E3	J-5	IC310	G-3	Q116	B-3	Q339	H-2	RV303	G-1		
E4	D-2	IC311	G-3	Q117	B-2	Q340	H-3	RV701	K-2		
E5	K-1	IC312	I-1	Q118	B-3	Q341	I-2	RV702	J-3		
		IC313	I-3	Q119	B-2	Q342	H-2	RV703	K-4		
FL1	F-5	IC314	C-3	Q120	B-3	Q343	I-2				
		IC315	C-3	Q121	B-3	Q344	I-2	S5	G-5		
IC1	B-5	IC601	H-5	Q122	B-2	Q345	H-2	S11	K-2		
IC2	B-5	IC602	I-4	Q123	C-3	Q346	I-2	S12	K-2		
IC3	B-5	IC603	I-4	Q124	B-4	Q347	I-2	S13	K-3		
IC4	B-5	IC604	I-5	Q125	C-1	Q348	H-3	S14	K-4		
IC5	C-5	IC605	I-5	Q126	C-2	Q349	I-2	S15	K-4		
IC6	C-5	IC606	H-4	Q127	C-3	Q350	I-3	S21	K-1		
IC7	C-5	IC607	G-4	Q128	E-1	Q351	I-1	S22	K-1		
IC8	C-5	IC608	H-5	Q129	E-1	Q352	I-2	S23	K-2		
IC9	D-4	IC609	G-5	Q130	C-2	Q353	B-3	S24	K-2		
IC10	D-5	IC610	H-5	Q132	E-2	Q354	B-3	S601	K-5		
IC11	D-5	IC611	H-4	Q133	E-2	Q701	J-1	S602	K-5		
IC12	D-5	IC612	I-4	Q134	E-3	Q703	J-2	S603	J-5		
IC13	D-5	IC613	I-4	Q135	E-3	Q704	J-2	S604	J-5		
IC14	D-5	IC614	I-5	Q302	H-1	Q705	J-2	S605	K-5		
IC15	D-5	IC615	I-5	Q303	H-1	Q706	J-2				
IC16	E-4	IC616	G-4	Q304	H-1	Q707	K-2				

MS-23 BOARD Serial No. 10201 – 10310

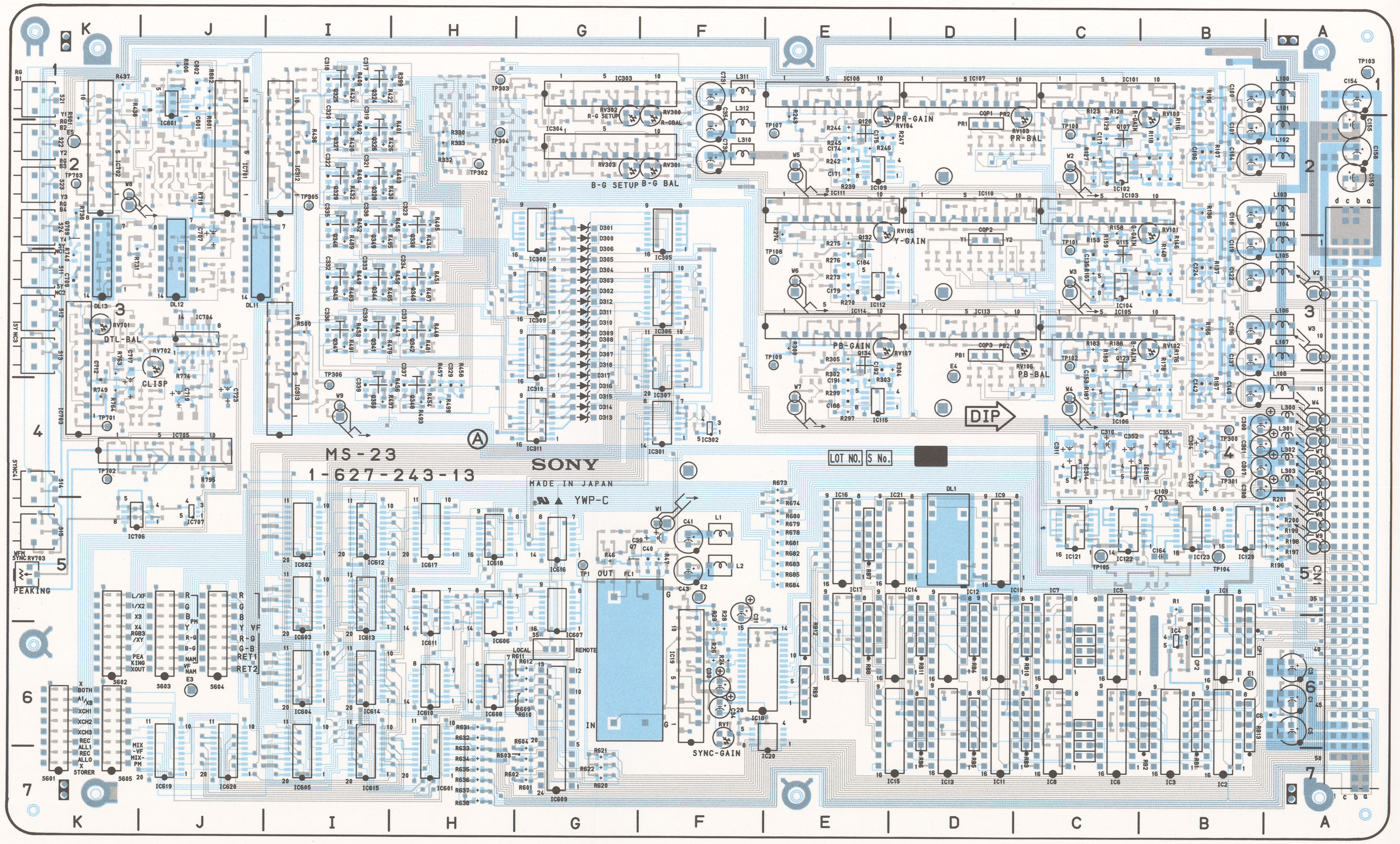


1-627-243-12 COMPONENT SIDE

MS-23 1-627-243-12

CN1	A-5	IC14	D-5	IC614	I-6	Q112	B-3	Q331	I-2	RB8	E-6	TP305	I-2
		IC15	D-7	IC615	I-7	Q113	B-3	Q332	H-3	RB9	E-6	TP306	I-4
COP1	D-2	IC16	E-5	IC616	G-5	Q114	B-2	Q333	I-3	RB10	C-6	TP701	K-4
COP2	D-2	IC17	E-5	IC617	H-5	Q115	C-3	Q334	H-3	RB11	D-6	TP702	K-4
COP3	D-3	IC18	F-6	IC618	H-5	Q116	B-4	Q335	H-3	RB12	E-6	TP703	K-2
		IC19	F-6	IC619	J-7	Q117	B-3	Q336	I-2	RB13	B-6		
CP1	B-6	IC20	E-7	IC620	J-7	Q118	B-4	Q337	I-3				
CP2	B-6	IC21	D-5	IC701	K-2	Q119	B-3	Q338	H-4	RV1	F-6		
		IC101	C-1	IC702	K-2	Q120	B-4	Q339	H-2	RV100	B-2		
D1	B-6	IC102	C-2	IC703	K-4	Q121	B-3	Q340	H-4	RV101	B-2		
D300	G-2	IC103	C-2	IC704	J-3	Q122	B-3	Q341	I-3	RV102	B-3		
D301	G-2	IC104	C-3	IC705	J-4	Q123	C-3	Q342	H-3	RV103	C-2		
D302	G-3	IC105	C-3	IC706	K-5	Q124	B-5	Q343	I-3	RV104	E-1		
D304	G-3	IC106	C-4	IC707	J-5	Q125	C-2	Q344	I-3	RV105	E-3		
D305	G-3	IC107	D-1	IC801	J-1	Q126	C-3	Q345	H-3	RV106	C-3		
D306	G-3	IC108	E-1			Q127	C-4	Q346	I-2	RV107	E-3		
D307	G-3	IC109	E-2	L1	F-5	Q128	E-2	Q347	I-3	RV300	F-1		
D308	G-3	IC110	D-2	L2	F-5	Q129	E-2	Q348	H-4	RV301	F-2		
D309	G-3	IC111	E-2	L100	A-1	Q130	C-2	Q349	I-2	RV302	G-1		
D310	G-3	IC112	E-3	L101	A-2	Q131	D-2	Q350	I-4	RV303	G-2		
D311	G-3	IC113	D-3	L102	A-2	Q132	E-3	Q351	I-1	RV701	K-3		
D312	G-3	IC114	E-3	L103	A-2	Q133	E-3	Q352	I-3	RV702	J-3		
D313	G-4	IC115	E-4	L104	A-2	Q134	E-3	Q353	B-4	RV703	K-5		
D314	G-4	IC120	B-5	L105	A-3	Q135	E-4	Q354	B-4				
D315	G-4	IC121	C-5	L106	A-3	Q300	B-4	Q355	C-4	S5	G-6		
D316	G-4	IC122	C-5	L107	A-3	Q301	B-4	Q356	C-4	S11	K-3		
D317	G-4	IC123	B-5	L108	A-4	Q302	H-1	Q701	J-1	S12	K-3		
D318	G-3	IC301	F-4	L109	B-5	Q303	H-1	Q702	K-2	S13	K-3		
		IC302	F-4	L300	A-4	Q304	H-2	Q703	J-2	S14	K-4		
DL1	D-5	IC303	G-1	L301	A-4	Q305	H-1	Q704	J-2	S15	K-5		
DL11	J-3	IC304	G-2	L302	A-4	Q306	H-1	Q705	J-3	S21	K-1		
DL12	J-3	IC305	F-3	L303	A-4	Q307	H-2	Q706	J-2	S22	K-2		
DL13	K-3	IC306	F-3	L310	F-2	Q308	B-4	Q707	K-3	S23	K-2		
		IC307	F-4	L311	F-1	Q309	C-4	Q708	K-3	S24	K-2		
E1	B-6	IC308	G-3	L312	F-1	Q310	C-4	Q709	K-2	S601	K-7		
E2	F-5	IC309	G-3			Q311	G-1	Q710	K-3	S602	K-6		
E3	J-6	IC310	G-4	Q1	B-6	Q312	G-2	Q711	K-3	S603	J-6		
E4	D-3	IC311	G-4	Q2	F-6	Q313	G-2	Q712	K-4	S604	J-6		
E5	K-2	IC312	I-2	Q3	F-5	Q314	G-2	Q713	K-4	S605	K-7		
		IC313	I-4	Q4	F-5	Q315	H-1	Q714	J-4				
FL1	G-5	IC314	C-4	Q5	G-5	Q316	H-2	Q801	J-1	TP1	G-5		
		IC315	C-4	Q6	G-5	Q317	H-1	Q802	J-2	TP100	C-2		
IC1	B-5	IC601	H-7	Q7	G-5	Q318	I-1	Q802	J-2	TP101	C-3		
IC2	B-7	IC602	I-5	Q100	B-2	Q319	H-2	Q803	J-2	TP102	C-3		
IC3	B-7	IC603	I-6	Q101	B-1	Q320	I-2	Q804	J-2	TP103	A-1		
IC4	B-6	IC604	I-6	Q102	B-2	Q321	H-2	Q805	J-2	TP104	B-5		
IC5	C-5	IC605	I-7	Q103	B-1	Q322	I-2	Q806	J-2	TP105	C-5		
IC6	C-7	IC606	H-6	Q104	B-2	Q323	H-2			TP107	E-2		
IC7	C-5	IC607	G-6	Q105	B-2	Q324	I-1	RB1	B-6	TP108	E-3		
IC8	C-7	IC608	H-6	Q106	B-1	Q325	I-1	RB2	B-6	TP109	E-3		
IC9	D-5	IC609	G-7	Q107	C-2	Q326	I-2	RB3	C-7	TP300	B-4		
IC10	D-5	IC610	H-6	Q108	B-3	Q327	I-2	RB4	D-6	TP301	B-4		
IC11	D-7	IC611	H-6	Q109	B-2	Q328	I-2	RB5	D-7	TP302	H-2		
IC12	D-5	IC612	I-5	Q110	B-3	Q329	I-2	RB6	D-7	TP303	H-1		
IC13	D-7	IC613	I-6	Q111	B-2	Q330	H-2	RB7	E-5	TP304	H-2		

MS-23 BOARD Serial No. 10401 –

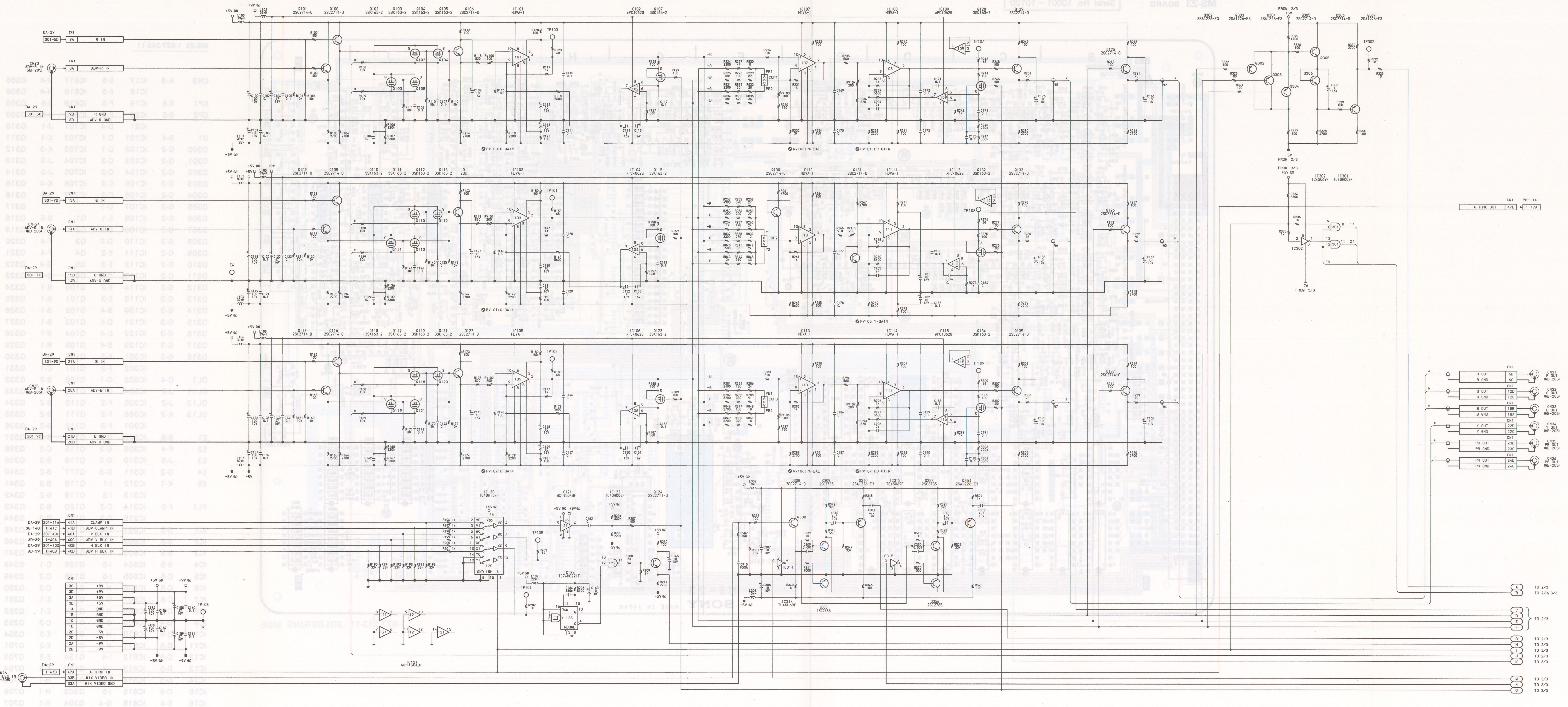


1-627-243-13 COMPONENT SIDE

MS-23 1-627-243-13

CN1	A-5	IC14	D-5	IC614	I-6	Q112	B-3	Q331	I-2	RB8	E-6	TP305	I-2
		IC15	D-7	IC615	I-7	Q113	B-3	Q332	H-3	RB9	E-6	TP306	I-4
COP1	D-2	IC16	E-5	IC616	G-5	Q114	B-2	Q333	I-3	RB10	C-6	TP701	K-4
COP2	D-2	IC17	E-5	IC617	H-5	Q115	C-3	Q334	H-3	RB11	D-6	TP702	K-4
COP3	D-3	IC18	F-6	IC618	H-5	Q116	B-4	Q335	H-3	RB12	E-6	TP703	K-2
		IC19	F-6	IC619	J-7	Q117	B-3	Q336	I-2	RB13	B-6		
CP1	B-6	IC20	E-7	IC620	J-7	Q118	B-4	Q337	I-3				
CP2	B-6	IC21	D-5	IC701	K-2	Q119	B-3	Q338	H-4	RV1	F-6		
		IC101	C-1	IC702	K-2	Q120	B-4	Q339	H-2	RV100	B-2		
D1	B-6	IC102	C-2	IC703	K-4	Q121	B-3	Q340	H-4	RV101	B-2		
D300	G-2	IC103	C-2	IC704	J-3	Q122	B-3	Q341	I-3	RV102	B-3		
D301	G-2	IC104	C-3	IC705	J-4	Q123	C-3	Q342	H-3	RV103	C-2		
D302	G-3	IC105	C-3	IC706	K-5	Q124	B-5	Q343	I-3	RV104	E-1		
D304	G-3	IC106	C-4	IC707	J-5	Q125	C-2	Q344	I-3	RV105	E-3		
D305	G-3	IC107	D-1	IC801	J-1	Q126	C-3	Q345	H-3	RV106	C-3		
D306	G-3	IC108	E-1			Q127	C-4	Q346	I-2	RV107	E-3		
D307	G-3	IC109	E-2	L1	F-5	Q128	E-2	Q347	I-3	RV300	F-1		
D308	G-3	IC110	D-2	L2	F-5	Q129	E-2	Q348	H-4	RV301	F-2		
D309	G-3	IC111	E-2	L100	A-1	Q130	C-2	Q349	I-2	RV302	G-1		
D310	G-3	IC112	E-3	L101	A-2	Q131	D-2	Q350	I-4	RV303	G-2		
D311	G-3	IC113	D-3	L102	A-2	Q132	E-3	Q351	I-1	RV701	K-3		
D312	G-3	IC114	E-3	L103	A-2	Q133	E-3	Q352	I-3	RV702	J-3		
D313	G-4	IC115	E-4	L104	A-2	Q134	E-3	Q353	B-4	RV703	K-5		
D314	G-4	IC120	B-5	L105	A-3	Q135	E-4	Q354	B-4				
D315	G-4	IC121	C-5	L106	A-3	Q300	B-4	Q355	C-4	S5	G-6		
D316	G-4	IC122	C-5	L107	A-3	Q301	B-4	Q356	C-4	S11	K-3		
D317	G-4	IC123	B-5	L108	A-4	Q302	H-1	Q701	J-1	S12	K-3		
D318	G-3	IC301	F-4	L109	B-5	Q303	H-1	Q702	K-2	S13	K-3		
		IC302	F-4	L300	A-4	Q304	H-2	Q703	J-2	S14	K-4		
DL1	D-5	IC303	G-1	L301	A-4	Q305	H-1	Q704	J-2	S15	K-5		
DL11	J-3	IC304	G-2	L302	A-4	Q306	H-1	Q705	J-3	S21	K-1		
DL12	J-3	IC305	F-3	L303	A-4	Q307	H-2	Q706	J-2	S22	K-2		
DL13	K-3	IC306	F-3	L310	F-2	Q308	B-4	Q707	K-3	S23	K-2		
		IC307	F-4	L311	F-1	Q309	C-4	Q708	K-3	S24	K-2		
E1	B-6	IC308	G-3	L312	F-1	Q310	C-4	Q709	K-2	S601	K-7		
E2	F-5	IC309	G-3			Q311	G-1	Q710	K-3	S602	K-6		
E3	J-6	IC310	G-4	Q1	B-6	Q312	G-2	Q711	K-3	S603	J-6		
E4	D-3	IC311	G-4	Q2	F-6	Q313	G-2	Q712	K-4	S604	J-6		
E5	K-2	IC312	I-2	Q3	F-5	Q314	G-2	Q713	K-4	S605	K-7		
		IC313	I-4	Q4	F-5	Q315	H-1	Q714	J-4				
FL1	G-5	IC314	C-4	Q5	G-5	Q316	H-2	Q801	J-1	TP1	G-5		
		IC315	C-4	Q6	G-5	Q317	H-1	Q802	J-2	TP100	C-2		
IC1	B-5	IC601	H-7	Q7	G-5	Q318	I-1	Q802	J-2	TP101	C-3		
IC2	B-7	IC602	I-5	Q100	B-2	Q319	H-2	Q803	J-2	TP102	C-3		
IC3	B-7	IC603	I-6	Q101	B-1	Q320	I-2	Q804	J-2	TP103	A-1		
IC4	B-6	IC604	I-6	Q102	B-2	Q321	H-2	Q805	J-2	TP104	B-5		
IC5	C-5	IC605	I-7	Q103	B-1	Q322	I-2	Q806	J-2	TP105	C-5		
IC6	C-7	IC606	H-6	Q104	B-2	Q323	H-2			TP107	E-2		
IC7	C-5	IC607	G-6	Q105	B-2	Q324	I-1	RB1	B-6	TP108	E-3		
IC8	C-7	IC608	H-6	Q106	B-1	Q325	I-1	RB2	B-6	TP109	E-3		
IC9	D-5	IC609	G-7	Q107	C-2	Q326	I-2	RB3	C-7	TP300	B-4		
IC10	D-5	IC610	H-6	Q108	B-3	Q327	I-2	RB4	D-6	TP301	B-4		
IC11	D-7	IC611	H-6	Q109	B-2	Q328	I-2	RB5	D-7	TP302	H-2		
IC12	D-5	IC612	I-5	Q110	B-3	Q329	I-2	RB6	D-7	TP303	H-1		
IC13	D-7	IC613	I-6	Q111	B-2	Q330	H-2	RB7	E-5	TP304	H-2		

MS-23 (1/3) BOARD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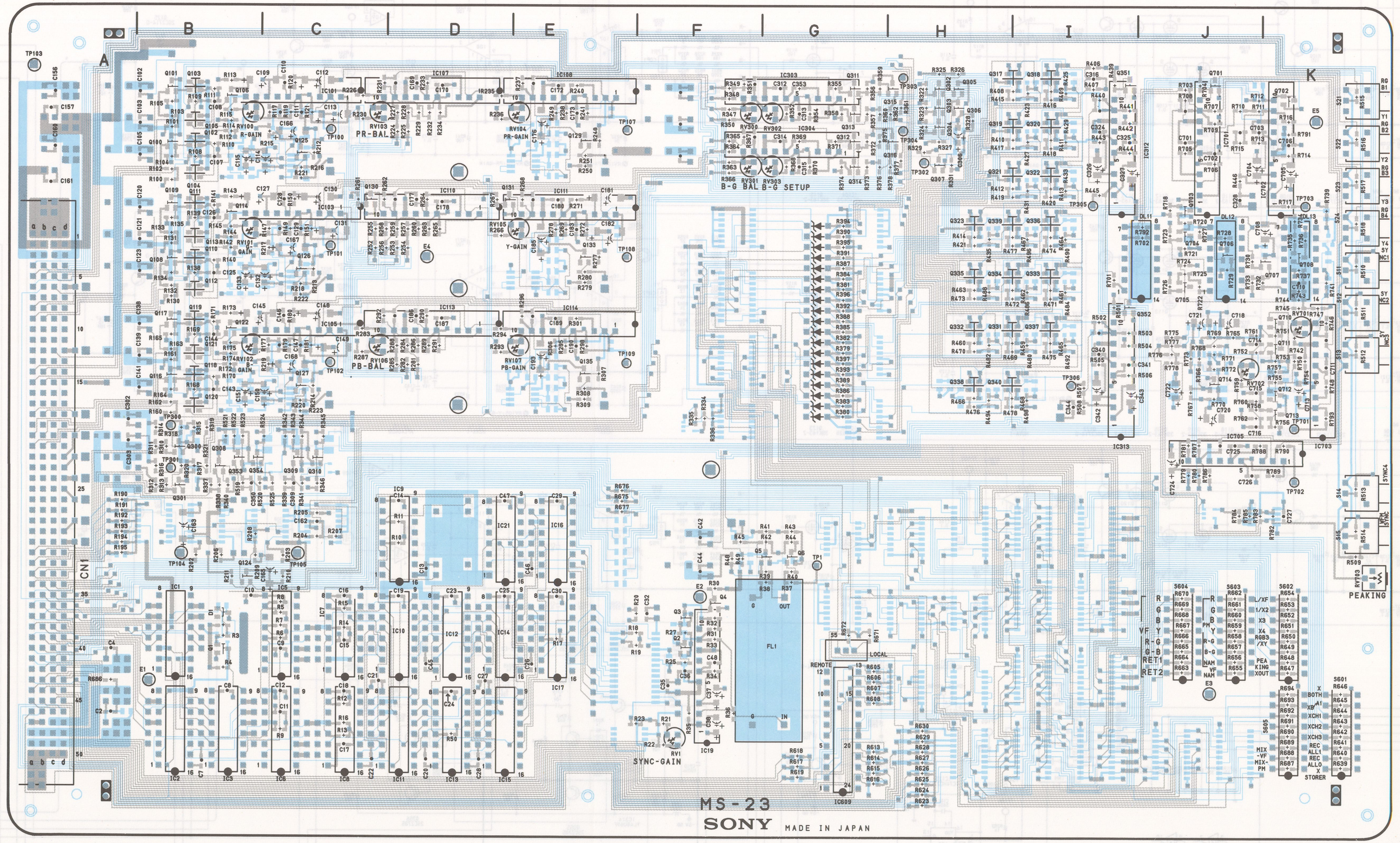
* NOTE

REF NO.	CHANGE INFORMATION	SER NO.
C901 C902 C903	2P → DELETE	10101-

MS-23 (1/3) BOARD

MS-23 BOARD Serial No. 10001 – 10120



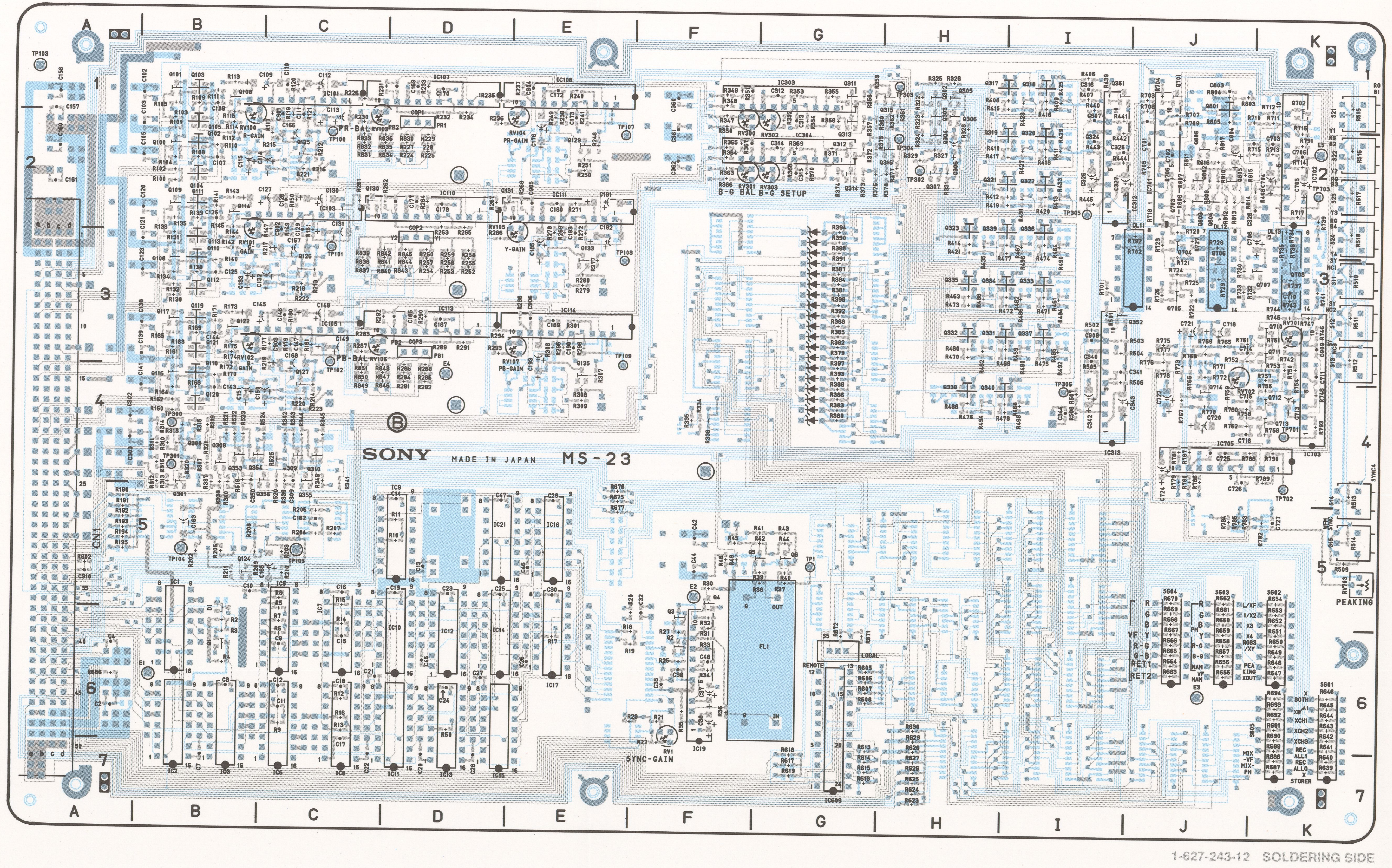
1-627-243-11 SOLDERING SIDE

MS-23 1-627-243-11

CN3	A-3	IC17	E-5	IC617	H-4	Q305	H-1	Q708	K-2	TP1	G-4
		IC18	E-5	IC618	H-4	Q306	H-1	Q710	K-2	TP100	C-1
CP1	B-5	IC19	F-5	IC619	J-5	Q308	B-3	Q711	K-3	TP101	C-2
CP2	B-5	IC20	E-5	IC620	J-5	Q309	C-3	Q712	K-3	TP102	C-3
		IC21	D-4	IC701	J-1	Q310	C-3	Q713	K-3	TP103	A-1
D1	B-4	IC101	C-1	IC702	K-1	Q311	G-1	Q714	J-3	TP104	B-4
D300	G-2	IC102	C-1	IC703	K-3	Q312	G-1			TP105	C-4
D301	G-2	IC103	C-2	IC704	J-3	Q313	G-1	RB1	B-5	TP107	E-1
D302	G-2	IC104	C-2	IC705	J-3	Q314	G-1	RB2	B-5	TP108	E-2
D303	G-2	IC105	C-2	IC706	K-4	Q315	H-1	RB3	C-5	TP109	E-3
D304	G-2	IC106	C-3	IC707	J-4	Q316	H-1	RB4	D-5	TP300	B-3
D305	G-2	IC107	D-1			Q317	H-1	RB5	D-5	TP301	B-3
D306	G-2	IC108	E-1	Q1	B-5	Q318	I-1	RB6	D-5	TP302	H-1
D307	G-3	IC109	E-1	Q2	F-5	Q319	H-1	RB7	E-4	TP303	H-1
D308	G-3	IC110	D-2	Q3	F-4	Q320	I-1	RB8	E-5	TP304	H-1
D309	G-2	IC111	E-2	Q4	F-4	Q321	H-1	RB9	E-5	TP305	I-2
D310	G-2	IC112	E-2	Q5	G-4	Q322	I-1	RB10	C-5	TP306	I-3
D311	G-2	IC113	D-2	Q6	G-4	Q323	H-2	RB11	D-5	TP701	K-3
D312	G-2	IC114	E-2	Q100	B-1	Q324	I-1	RB12	E-5	TP702	K-3
D313	G-3	IC115	E-3	Q101	B-1	Q325	I-1	RB13	B-5	TP703	K-2
D314	G-3	IC120	B-4	Q102	B-1	Q326	I-1				
D315	G-3	IC121	C-4	Q103	B-1	Q327	I-1	RV1	F-5		
D316	G-3	IC122	C-4	Q104	B-1	Q328	I-1	RV100	B-1		
D317	G-3	IC123	B-4	Q105	B-1	Q329	I-1	RV101	B-2		
D318	G-3	IC301	F-3	Q106	B-1	Q330	H-2	RV102	B-3		
		IC302	F-3	Q107	C-1	Q331	H-2	RV103	C-1		
DL1	D-4	IC303	G-1	Q108	B-2	Q332	H-2	RV104	E-1		
DL11	J-2	IC304	G-1	Q109	B-2	Q333	I-2	RV105	E-2		
DL12	J-2	IC305	F-2	Q110	B-2	Q334	H-2	RV106	C-3		
DL13	K-2	IC306	F-2	Q111	B-2	Q335	H-2	RV107	E-3		
		IC307	F-3	Q112	B-2	Q336	I-2	RV300	F-1		
E1	B-5	IC308	G-2	Q114	B-2	Q337	I-2	RV301	F-1		
E2	F-4	IC309	G-2	Q115	C-2	Q338	H-3	RV302	G-1		
E3	J-5	IC310	G-3	Q116	B-3	Q339	H-2	RV303	G-1		
E4	D-2	IC311	G-3	Q117	B-2	Q340	H-3	RV701	K-2		
E5	K-1	IC312	I-1	Q118	B-3	Q341	I-2	RV702	J-3		
		IC313	I-3	Q119	B-2	Q342	H-2	RV703	K-4		
FL1	F-5	IC314	C-3	Q120	B-3	Q343	I-2				
		IC315	C-3	Q121	B-3	Q344	I-2	S5	G-5		
IC1	B-5	IC601	H-5	Q122	B-2	Q345	H-2	S11	K-2		
IC2	B-5	IC602	I-4	Q123	C-3	Q346	I-2	S12	K-2		
IC3	B-5	IC603	I-4	Q124	B-4	Q347	I-2	S13	K-3		
IC4	B-5	IC604	I-5	Q125	C-1	Q348	H-3	S14	K-4		
IC5	C-5	IC605	I-5	Q126	C-2	Q349	I-2	S15	K-4		
IC6	C-5	IC606	H-4	Q127	C-3	Q350	I-3	S21	K-1		
IC7	C-5	IC607	G-4	Q128	E-1	Q351	I-1	S22	K-1		
IC8	C-5	IC608	H-5	Q129	E-1	Q352	I-2	S23	K-2		
IC9	D-4	IC609	G-5	Q130	C-2	Q353	B-3	S24	K-2		
IC10	D-5	IC610	H-5	Q132	E-2	Q354	B-3	S601	K-5		
IC11	D-5	IC611	H-4	Q133	E-2	Q701	J-1	S602	K-5		
IC12	D-5	IC612	I-4	Q134	E-3	Q703	J-2	S603	J-5		
IC13	D-5	IC613	I-4	Q135	E-3	Q704	J-2	S604	J-5		
IC14	D-5	IC614	I-5	Q302	H-1	Q705	J-2	S605	K-5		
IC15	D-5	IC615	I-5	Q303	H-1	Q706	J-2				
IC16	E-4	IC616	G-4	Q304	H-1	Q707	K-2				

MS-23 BOARD

Serial No. 10201 – 10310

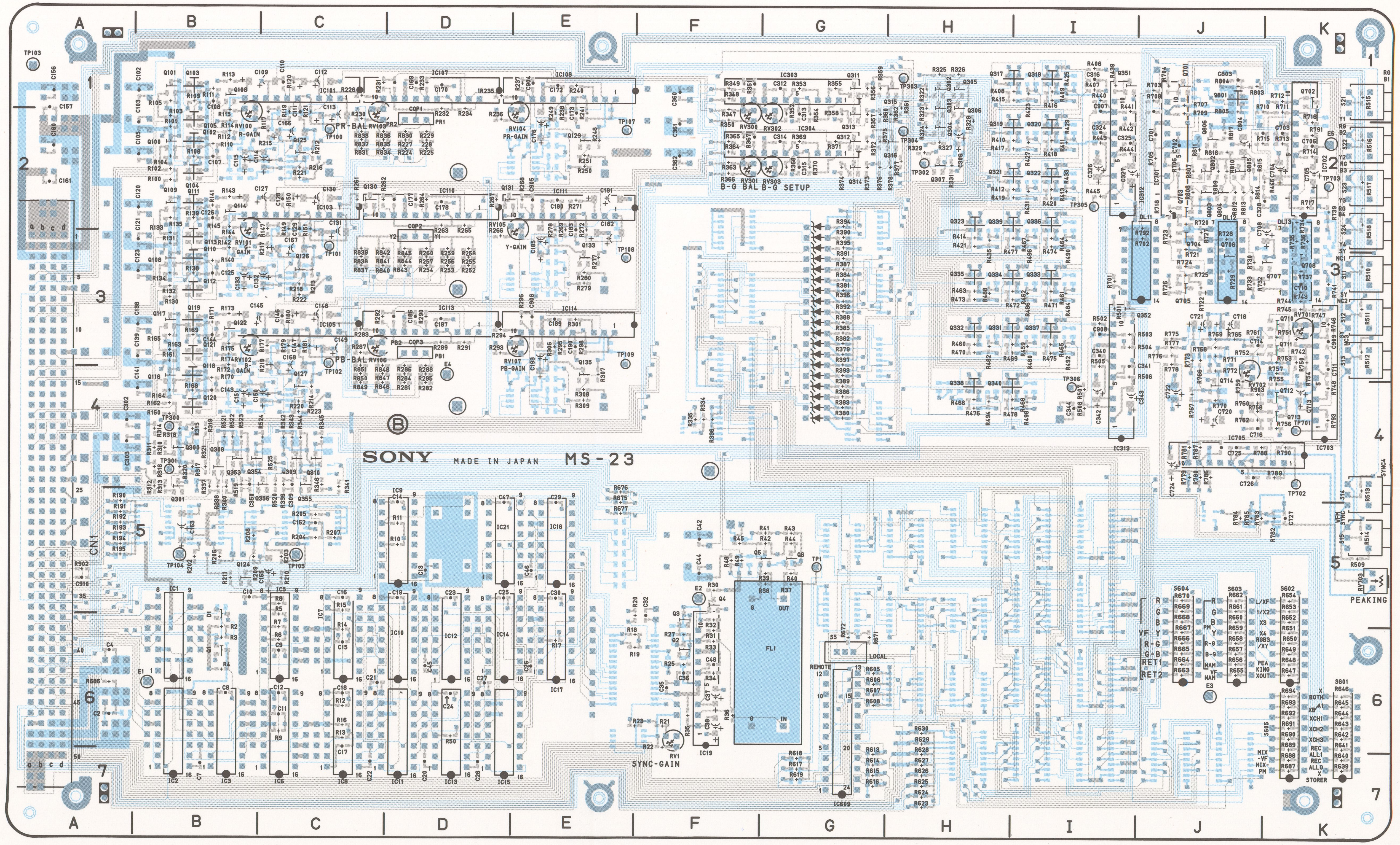


1-627-243-12 SOLDERING SIDE

MS-23 1-627-243-12

CN1	A-5	IC14	D-5	IC614	I-6	Q112	B-3	Q331	I-2	RB8	E-6	TP305	I-2
		IC15	D-7	IC615	I-7	Q113	B-3	Q332	H-3	RB9	E-6	TP306	I-4
COP1	D-2	IC16	E-5	IC616	G-5	Q114	B-2	Q333	I-3	RB10	C-6	TP701	K-4
COP2	D-2	IC17	E-5	IC617	H-5	Q115	C-3	Q334	H-3	RB11	D-6	TP702	K-4
COP3	D-3	IC18	F-6	IC618	H-5	Q116	B-4	Q335	H-3	RB12	E-6	TP703	K-2
		IC19	F-6	IC619	J-7	Q117	B-3	Q336	I-2	RB13	B-6		
CP1	B-6	IC20	E-7	IC620	J-7	Q118	B-4	Q337	I-3				
CP2	B-6	IC21	D-5	IC701	K-2	Q119	B-3	Q338	H-4	RV1	F-6		
		IC101	C-1	IC702	K-2	Q120	B-4	Q339	H-2	RV100	B-2		
D1	B-6	IC102	C-2	IC703	K-4	Q121	B-3	Q340	H-4	RV101	B-2		
D300	G-2	IC103	C-2	IC704	J-3	Q122	B-3	Q341	I-3	RV102	B-3		
D301	G-2	IC104	C-3	IC705	J-4	Q123	C-3	Q342	H-3	RV103	C-2		
D302	G-3	IC105	C-3	IC706	K-5	Q124	B-5	Q343	I-3	RV104	E-1		
D304	G-3	IC106	C-4	IC707	J-5	Q125	C-2	Q344	I-3	RV105	E-3		
D305	G-3	IC107	D-1	IC801	J-1	Q126	C-3	Q345	H-3	RV106	C-3		
D306	G-3	IC108	E-1			Q127	C-4	Q346	I-2	RV107	E-3		
D307	G-3	IC109	E-2	L1	F-5	Q128	E-2	Q347	I-3	RV300	F-1		
D308	G-3	IC110	D-2	L2	F-5	Q129	E-2	Q348	H-4	RV301	F-2		
D309	G-3	IC111	E-2	L100	A-1	Q130	C-2	Q349	I-2	RV302	G-1		
D310	G-3	IC112	E-3	L101	A-2	Q131	D-2	Q350	I-4	RV303	G-2		
D311	G-3	IC113	D-3	L102	A-2	Q132	E-3	Q351	I-1	RV701	K-3		
D312	G-3	IC114	E-3	L103	A-2	Q133	E-3	Q352	I-3	RV702	J-3		
D313	G-4	IC115	E-4	L104	A-2	Q134	E-3	Q353	B-4	RV703	K-5		
D314	G-4	IC120	B-5	L105	A-3	Q135	E-4	Q354	B-4				
D315	G-4	IC121	C-5	L106	A-3	Q300	B-4	Q355	C-4	S5	G-6		
D316	G-4	IC122	C-5	L107	A-3	Q301	B-4	Q356	C-4	S11	K-3		
D317	G-4	IC123	B-5	L108	A-4	Q302	H-1	Q701	J-1	S12	K-3		
D318	G-3	IC301	F-4	L109	B-5	Q303	H-1	Q702	K-2	S13	K-3		
		IC302	F-4	L300	A-4	Q304	H-2	Q703	J-2	S14	K-4		
DL1	D-5	IC303	G-1	L301	A-4	Q305	H-1	Q704	J-2	S15	K-5		
DL11	J-3	IC304	G-2	L302	A-4	Q306	H-1	Q705	J-3	S21	K-1		
DL12	J-3	IC305	F-3	L303	A-4	Q307	H-2	Q706	J-2	S22	K-2		
DL13	K-3	IC306	F-3	L310	F-2	Q308	B-4	Q707	K-3	S23	K-2		
		IC307	F-4	L311	F-1	Q309	C-4	Q708	K-3	S24	K-2		
E1	B-6	IC308	G-3	L312	F-1	Q310	C-4	Q709	K-2	S601	K-7		
E2	F-5	IC309	G-3			Q311	G-1	Q710	K-3	S602	K-6		
E3	J-6	IC310	G-4	Q1	B-6	Q312	G-2	Q711	K-3	S603	J-6		
E4	D-3	IC311	G-4	Q2	F-6	Q313	G-2	Q712	K-4	S604	J-6		
E5	K-2	IC312	I-2	Q3	F-5	Q314	G-2	Q713	K-4	S605	K-7		
		IC313	I-4	Q4	F-5	Q315	H-1	Q714	J-4				
FL1	G-5	IC314	C-4	Q5	G-5	Q316	H-2	Q801	J-1	TP1	G-5		
		IC315	C-4	Q6	G-5	Q317	H-1	Q802	J-2	TP100	C-2		
IC1	B-5	IC601	H-7	Q7	G-5	Q318	I-1	Q802	J-2	TP101	C-3		
IC2	B-7	IC602	I-5	Q100	B-2	Q319	H-2	Q803	J-2	TP102	C-3		
IC3	B-7	IC603	I-6	Q101	B-1	Q320	I-2	Q804	J-2	TP103	A-1		
IC4	B-6	IC604	I-6	Q102	B-2	Q321	H-2	Q805	J-2	TP104	B-5		
IC5	C-5	IC605	I-7	Q103	B-1	Q322	I-2	Q806	J-2	TP105	C-5		
IC6	C-7	IC606	H-6	Q104	B-2	Q323	H-2			TP107	E-2		
IC7	C-5	IC607	G-6	Q105	B-2	Q324	I-1	RB1	B-6	TP108	E-3		
IC8	C-7	IC608	H-6	Q106	B-1	Q325	I-1	RB2	B-6	TP109	E-3		
IC9	D-5	IC609	G-7	Q107	C-2	Q326	I-2	RB3	C-7	TP300	B-4		
IC10	D-5	IC610	H-6	Q108	B-3	Q327	I-2	RB4	D-6	TP301	B-4		
IC11	D-7	IC611	H-6	Q109	B-2	Q328	I-2	RB5	D-7	TP302	H-2		
IC12	D-5	IC612	I-5	Q110	B-3	Q329	I-2	RB6	D-7	TP303	H-1		
IC13	D-7	IC613	I-6	Q111	B-2	Q330	H-2	RB7	E-5	TP304	H-2		

MS-23 BOARD Serial No. 10401 –



1-627-243-13 SOLDERING SIDE

MS-23 1-627-243-13

CN1	A-5	IC14	D-5	IC614	I-6	Q112	B-3	Q331	I-2	RB8	E-6	TP305	I-2
		IC15	D-7	IC615	I-7	Q113	B-3	Q332	H-3	RB9	E-6	TP306	I-4
COP1	D-2	IC16	E-5	IC616	G-5	Q114	B-2	Q333	I-3	RB10	C-6	TP701	K-4
COP2	D-2	IC17	E-5	IC617	H-5	Q115	C-3	Q334	H-3	RB11	D-6	TP702	K-4
COP3	D-3	IC18	F-6	IC618	H-5	Q116	B-4	Q335	H-3	RB12	E-6	TP703	K-2
		IC19	F-6	IC619	J-7	Q117	B-3	Q336	I-2	RB13	B-6		
CP1	B-6	IC20	E-7	IC620	J-7	Q118	B-4	Q337	I-3				
CP2	B-6	IC21	D-5	IC701	K-2	Q119	B-3	Q338	H-4	RV1	F-6		
		IC101	C-1	IC702	K-2	Q120	B-4	Q339	H-2	RV100	B-2		
D1	B-6	IC102	C-2	IC703	K-4	Q121	B-3	Q340	H-4	RV101	B-2		
D300	G-2	IC103	C-2	IC704	J-3	Q122	B-3	Q341	I-3	RV102	B-3		
D301	G-2	IC104	C-3	IC705	J-4	Q123	C-3	Q342	H-3	RV103	C-2		
D302	G-3	IC105	C-3	IC706	K-5	Q124	B-5	Q343	I-3	RV104	E-1		
D304	G-3	IC106	C-4	IC707	J-5	Q125	C-2	Q344	I-3	RV105	E-3		
D305	G-3	IC107	D-1	IC801	J-1	Q126	C-3	Q345	H-3	RV106	C-3		
D306	G-3	IC108	E-1			Q127	C-4	Q346	I-2	RV107	E-3		
D307	G-3	IC109	E-2	L1	F-5	Q128	E-2	Q347	I-3	RV300	F-1		
D308	G-3	IC110	D-2	L2	F-5	Q129	E-2	Q348	H-4	RV301	F-2		
D309	G-3	IC111	E-2	L100	A-1	Q130	C-2	Q349	I-2	RV302	G-1		
D310	G-3	IC112	E-3	L101	A-2	Q131	D-2	Q350	I-4	RV303	G-2		
D311	G-3	IC113	D-3	L102	A-2	Q132	E-3	Q351	I-1	RV701	K-3		
D312	G-3	IC114	E-3	L103	A-2	Q133	E-3	Q352	I-3	RV702	J-3		
D313	G-4	IC115	E-4	L104	A-2	Q134	E-3	Q353	B-4	RV703	K-5		
D314	G-4	IC120	B-5	L105	A-3	Q135	E-4	Q354	B-4				
D315	G-4	IC121	C-5	L106	A-3	Q300	B-4	Q355	C-4	S5	G-6		
D316	G-4	IC122	C-5	L107	A-3	Q301	B-4	Q356	C-4	S11	K-3		
D317	G-4	IC123	B-5	L108	A-4	Q302	H-1	Q701	J-1	S12	K-3		
D318	G-3	IC301	F-4	L109	B-5	Q303	H-1	Q702	K-2	S13	K-3		
		IC302	F-4	L300	A-4	Q304	H-2	Q703	J-2	S14	K-4		
DL1	D-5	IC303	G-1	L301	A-4	Q305	H-1	Q704	J-2	S15	K-5		
DL11	J-3	IC304	G-2	L302	A-4	Q306	H-1	Q705	J-3	S21	K-1		
DL12	J-3	IC305	F-3	L303	A-4	Q307	H-2	Q706	J-2	S22	K-2		
DL13	K-3	IC306	F-3	L310	F-2	Q308	B-4	Q707	K-3	S23	K-2		
		IC307	F-4	L311	F-1	Q309	C-4	Q708	K-3	S24	K-2		
E1	B-6	IC308	G-3	L312	F-1	Q310	C-4	Q709	K-2	S601	K-7		
E2	F-5	IC309	G-3			Q311	G-1	Q710	K-3	S602	K-6		
E3	J-6	IC310	G-4	Q1	B-6	Q312	G-2	Q711	K-3	S603	J-6		
E4	D-3	IC311	G-4	Q2	F-6	Q313	G-2	Q712	K-4	S604	J-6		
E5	K-2	IC312	I-2	Q3	F-5	Q314	G-2	Q713	K-4	S605	K-7		
		IC313	I-4	Q4	F-5	Q315	H-1	Q714	J-4				
FL1	G-5	IC314	C-4	Q5	G-5	Q316	H-2	Q801	J-1	TP1	G-5		
		IC315	C-4	Q6	G-5	Q317	H-1	Q802	J-2	TP100	C-2		
IC1	B-5	IC601	H-7	Q7	G-5	Q318	I-1	Q802	J-2	TP101	C-3		
IC2	B-7	IC602	I-5	Q100	B-2	Q319	H-2	Q803	J-2	TP102	C-3		
IC3	B-7	IC603	I-6	Q101	B-1	Q320	I-2	Q804	J-2	TP103	A-1		
IC4	B-6	IC604	I-6	Q102	B-2	Q321	H-2	Q805	J-2	TP104	B-5		
IC5	C-5	IC605	I-7	Q103	B-1	Q322	I-2	Q806	J-2	TP105	C-5		
IC6	C-7	IC606	H-6	Q104	B-2	Q323	H-2			TP107	E-2		
IC7	C-5	IC607	G-6	Q105	B-2	Q324	I-1	RB1	B-6	TP108	E-3		
IC8	C-7	IC608	H-6	Q106	B-1	Q325	I-1	RB2	B-6	TP109	E-3		
IC9	D-5	IC609	G-7	Q107	C-2	Q326	I-2	RB3	C-7	TP300	B-4		
IC10	D-5	IC610	H-6	Q108	B-3	Q327	I-2	RB4	D-6	TP301	B-4		
IC11	D-7	IC611	H-6	Q109	B-2	Q328	I-2	RB5	D-7	TP302	H-2		
IC12	D-5	IC612	I-5	Q110	B-3	Q329	I-2	RB6	D-7	TP303	H-1		
IC13	D-7	IC613	I-6	Q111	B-2	Q330	H-2	RB7	E-5	TP304	H-2		

MS-23 (2/3) BOARD

RETURN 1 IN
RETURN 2 IN
CN1
FROM 1/3
TO 3/3
PCM OUT
VF OUT
RV300:B-G BAL
RV302:B-G SETUP
RV301:R-G BAL
RV303:R-G SETUP
RV701:DTL-BAL
RV702:CRISP
RV703:PEAKING
TP300
TP301
TP303
TP304
TP305
TP306
TP701
TP702
TP703
+5V
-5V
1
2
3
4
5
6

NOTE

MARKE	REF NO.	CHANGE INFORMATION	SER NO.
*1	R709	5600 → 6800	10101-
*2	C909	6P → 2P	10301-
	R710	16 → 22	
	R711	470 → 430	
	R716	5600 → 7500	
	R791	270 → 430	
	R807 R813 R816	100 → 560	

MS-23 (2/3) BOARD

MS-23 (3/3) BOARD

CLK IN
X CLK IN
SD CLK IN
X SD CLK IN
1/4 CLK IN
X 1/4 CLK IN
SD 1/4 CLK IN
X SD 1/4 CLK IN
SYNC I IN
SYNC O IN
ADV SYNC I IN
ADV SYNC O IN
DIGITAL +5V
DIGITAL GND
-2V
-5.2V
OUTPUT
SYNC OUT
FROM 2/3
FROM 1/3
EXT VIEW
REMOTE SYNC KEHB
REMOTE SYNC OUT
LOCAL
MOVE SET1
MOVE SET2
MOVE SET3
MOVE SET4
SYNC ON 1 OUT
SYNC ON 2 OUT
SYNC ON 3 OUT
SYNC ON 4 OUT
RGB/XY1 OUT
RGB/XY2 OUT
RGB/XY3 OUT
RGB/XY4 OUT

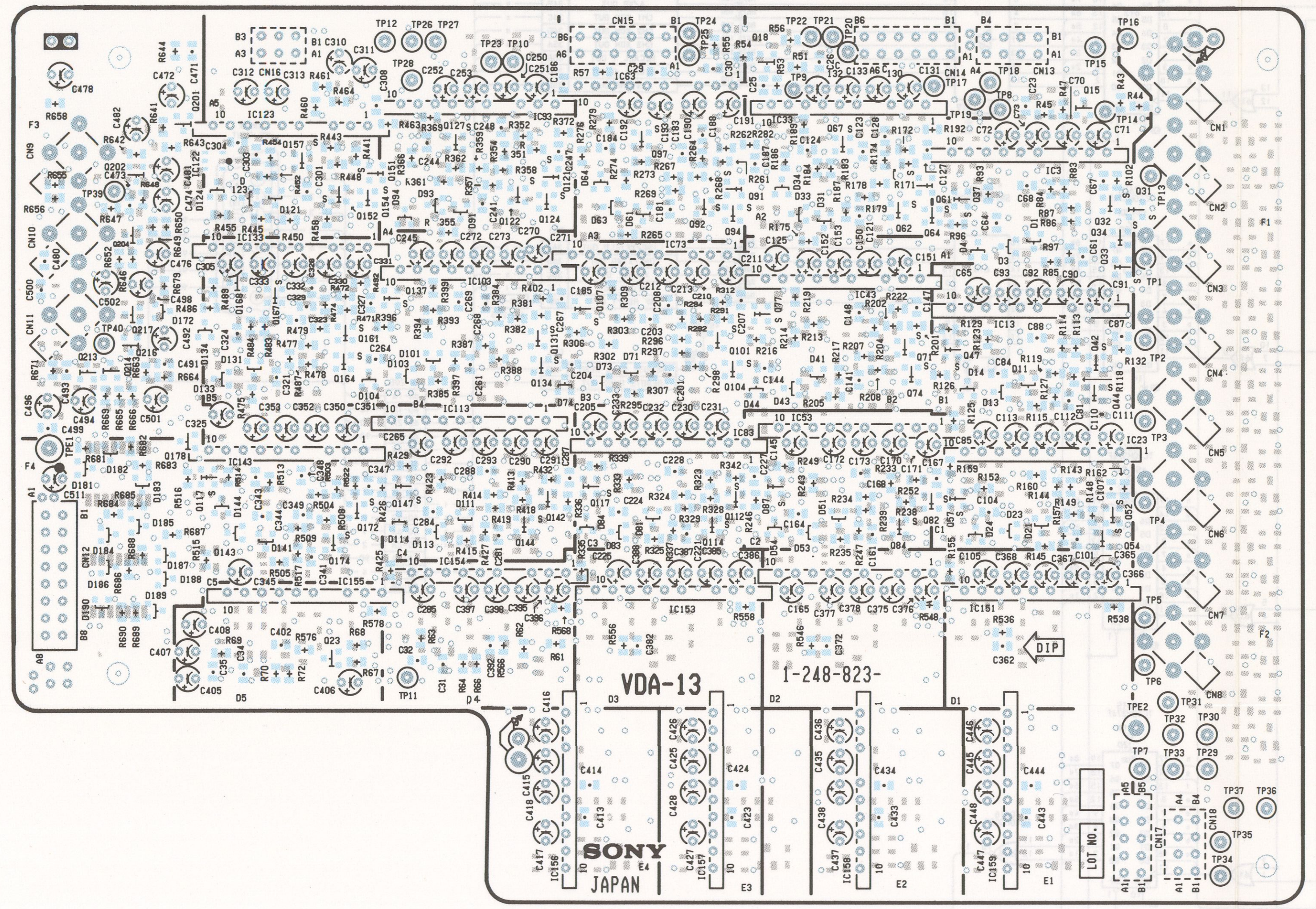
*NOTE

REF No.	CHANGE INFORMATION	SER No.
IC609	TC74HC154P → SN74HC154N	10301-
IC617	TC74HC244F → SN74HC244NS	
IC618	TC74HC365F → SN74HC365NS	

MS-23 (3/3) BOARD

VDA-13 BOARD

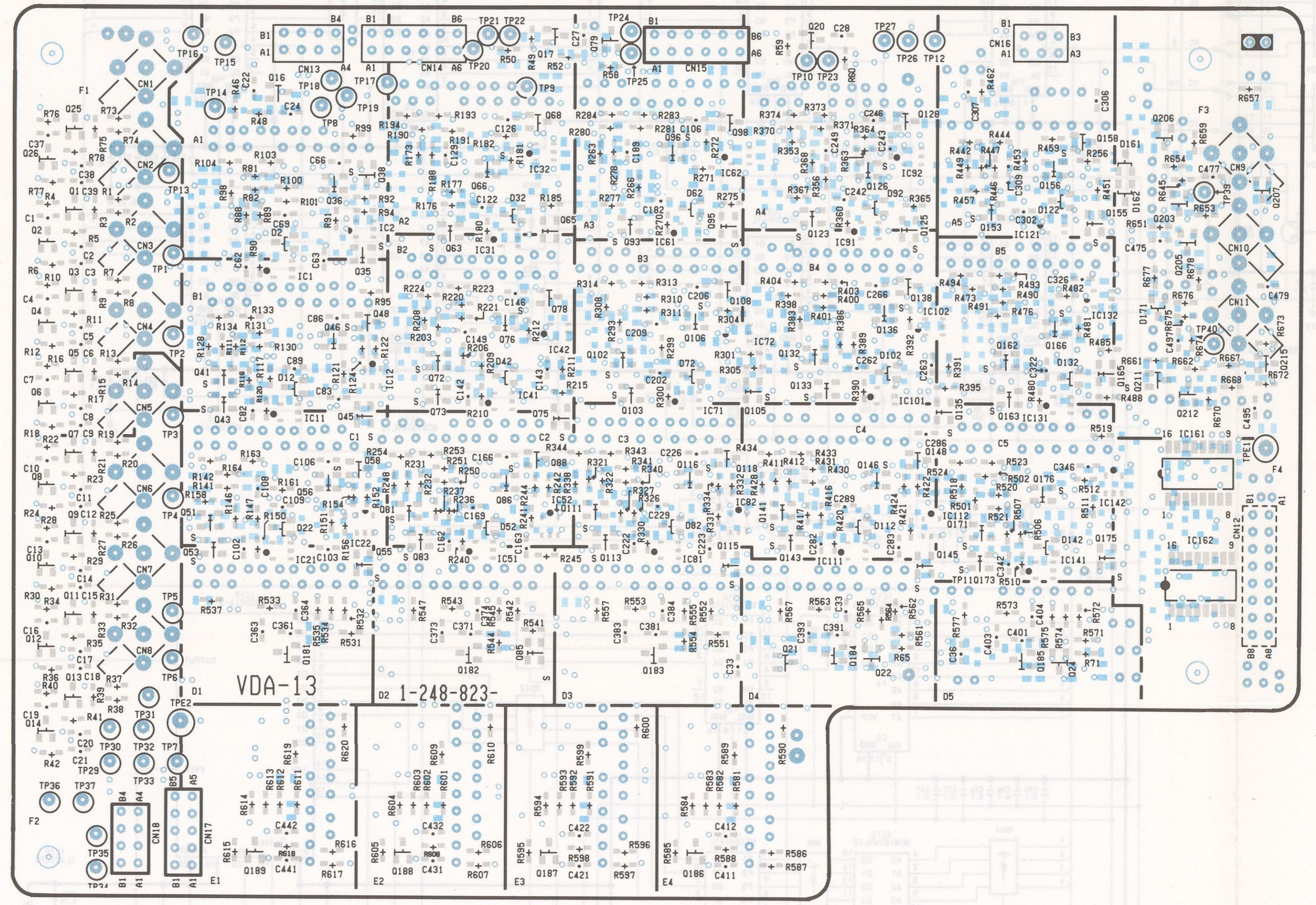
Serial No. 10001 – 10120



1-248-823-11 COMPONENT SIDE

VDA-13 1-248-823-11

CN1	F-1	D91	A-4	IC161	D-2	Q68	A-2	Q142	C-4	TP1	F-1
CN2	F-1	D92	A-4	IC162	F-4	Q71	B-2	Q143	C-4	TP2	F-1
CN3	F-1	D93	A-4			Q72	B-2	Q144	C-4	TP3	F-2
CN4	F-1	D94	A-4	Q1	F-1	Q73	B-2	Q145	D-4	TP4	F-2
CN5	F-2	D102	B-4	Q2	F-1	Q74	B-2	Q146	C-4	TP5	F-2
CN6	F-2	D104	B-5	Q3	F-1	Q75	C-2	Q147	C-4	TP6	F-2
CN7	F-2	D112	C-4	Q4	F-1	Q76	B-2	Q148	C-4	TP7	F-2
CN8	F-2	D121	A-5	Q5	F-1	Q77	B-2	Q151	A-5	TP8	A-1
CN9	F-3	D122	A-5	Q6	F-1	Q78	B-2	Q152	A-5	TP9	A-2
CN10	F-3	D123	A-5	Q7	F-2	Q79	A-3	Q153	A-5	TP10	A-4
CN11	F-3	D124	A-5	Q8	F-2	Q81	C-2	Q154	A-5	TP11	D-4
CN12	F-4	D131	B-5	Q9	F-2	Q83	C-2	Q155	A-5	TP12	A-4
CN13	A-1	D132	B-5	Q10	F-2	Q84	C-2	Q156	A-5	TP13	F-1
CN14	A-2	D133	B-5	Q11	F-2	Q85	D-2	Q157	A-5	TP14	A-1
CN15	A-3	D134	B-5	Q12	F-2	Q86	C-2	Q158	A-5	TP15	A-1
CN16	A-5	D141	C-5	Q13	F-2	Q87	C-2	Q161	B-5	TP16	F-1
CN17	E-1	D142	C-5	Q14	F-2	Q88	C-2	Q162	B-5	TP17	A-1
CN18	F-2	D143	C-5	Q16	A-1	Q91	A-3	Q163	B-5	TP18	A-1
		D144	C-5	Q17	A-2	Q92	A-3	Q164	B-5	TP19	A-1
D1	A-1	D161	F-3	Q18	A-2	Q93	A-3	Q165	B-5	TP20	A-2
D2	A-1	D162	F-3	Q20	A-4	Q94	A-3	Q166	B-5	TP21	A-2
D3	A-1	D171	F-3	Q21	D-4	Q95	A-3	Q167	B-5	TP22	A-2
D4	A-1	D172	F-3	Q22	D-4	Q96	A-3	Q168	B-5	TP23	A-4
D11	B-1	D181	F-4	Q23	D-5	Q97	A-3	Q171	C-5	TP24	A-3
D12	B-1	D182	F-4	Q24	D-5	Q98	A-3	Q172	C-5	TP25	A-3
D13	B-1	D183	F-4	Q25	F-1	Q101	B-3	Q173	C-5	TP26	A-4
D14	B-1	D184	F-4	Q26	F-1	Q103	B-3	Q174	C-5	TP27	A-4
D21	C-1	D185	F-4	Q31	F-1	Q104	B-3	Q175	C-5	TP28	A-4
D22	C-1	D187	F-4	Q32	A-1	Q105	B-4	Q176	C-5	TP29	F-2
D23	C-1	D188	F-4	Q33	A-1	Q106	B-3	Q181	D-1	TP30	F-2
D24	C-1	D190	F-4	Q34	A-1	Q107	B-3	Q182	D-2	TP31	F-2
D31	A-2			Q35	A-1	Q108	B-3	Q183	D-3	TP32	F-2
D32	A-2	IC3	A-1	Q36	A-1	Q111	C-3	Q184	D-4	TP33	F-2
D33	A-2	IC13	B-1	Q37	A-1	Q112	C-3	Q185	D-5	TP34	F-2
D34	A-2	IC23	C-1	Q38	A-1	Q113	C-3	Q186	E-4	TP35	F-2
D41	B-2	IC33	A-2	Q41	B-1	Q114	C-3	Q187	E-3	TP36	F-2
D43	B-2	IC43	B-2	Q42	B-1	Q115	D-3	Q188	E-2	TP37	F-2
D44	B-2	IC53	C-2	Q43	B-1	Q116	C-3	Q189	E-1	TP39	F-3
D51	C-2	IC63	A-3	Q44	B-1	Q117	C-3	Q201	F-3	TP40	F-3
D52	C-2	IC73	B-3	Q45	C-1	Q118	C-3	Q202	F-3		
D53	C-2	IC83	C-3	Q46	B-1	Q121	A-4	Q203	F-3	TPE1	F-4
D54	C-2	IC93	A-4	Q47	B-1	Q122	A-4	Q204	F-3	TPE2	F-2
D61	A-3	IC103	B-4	Q48	B-1	Q123	A-4	Q205	F-3		
D62	A-3	IC113	C-4	Q51	C-1	Q124	A-4	Q206	F-3		
D63	A-2	IC123	A-5	Q52	C-1	Q125	A-4	Q207	F-3		
D63	A-3	IC133	B-5	Q54	C-1	Q126	A-4	Q211	F-3		
D64	A-3	IC143	C-5	Q55	D-1	Q127	A-4	Q212	F-3		
D71	B-3	IC151	D-1	Q56	C-1	Q128	A-4	Q213	F-3		
D72	B-3	IC153	D-3	Q57	C-1	Q131	B-4	Q214	F-3		
D73	B-3	IC154	D-4	Q58	C-1	Q133	B-4	Q215	F-3		
D74	B-4	IC155	D-5	Q61	A-2	Q134	B-4	Q216	F-3		
D81	C-3	IC156	E-4	Q62	A-2	Q136	B-4	Q217	F-3		
D82	C-3	IC157	E-3	Q64	A-2	Q137	B-4				
D83	C-3	IC158	E-2	Q65	A-2	Q138	B-4				
D84	C-3	IC159	E-1	Q66	A-2	Q141	C-4				



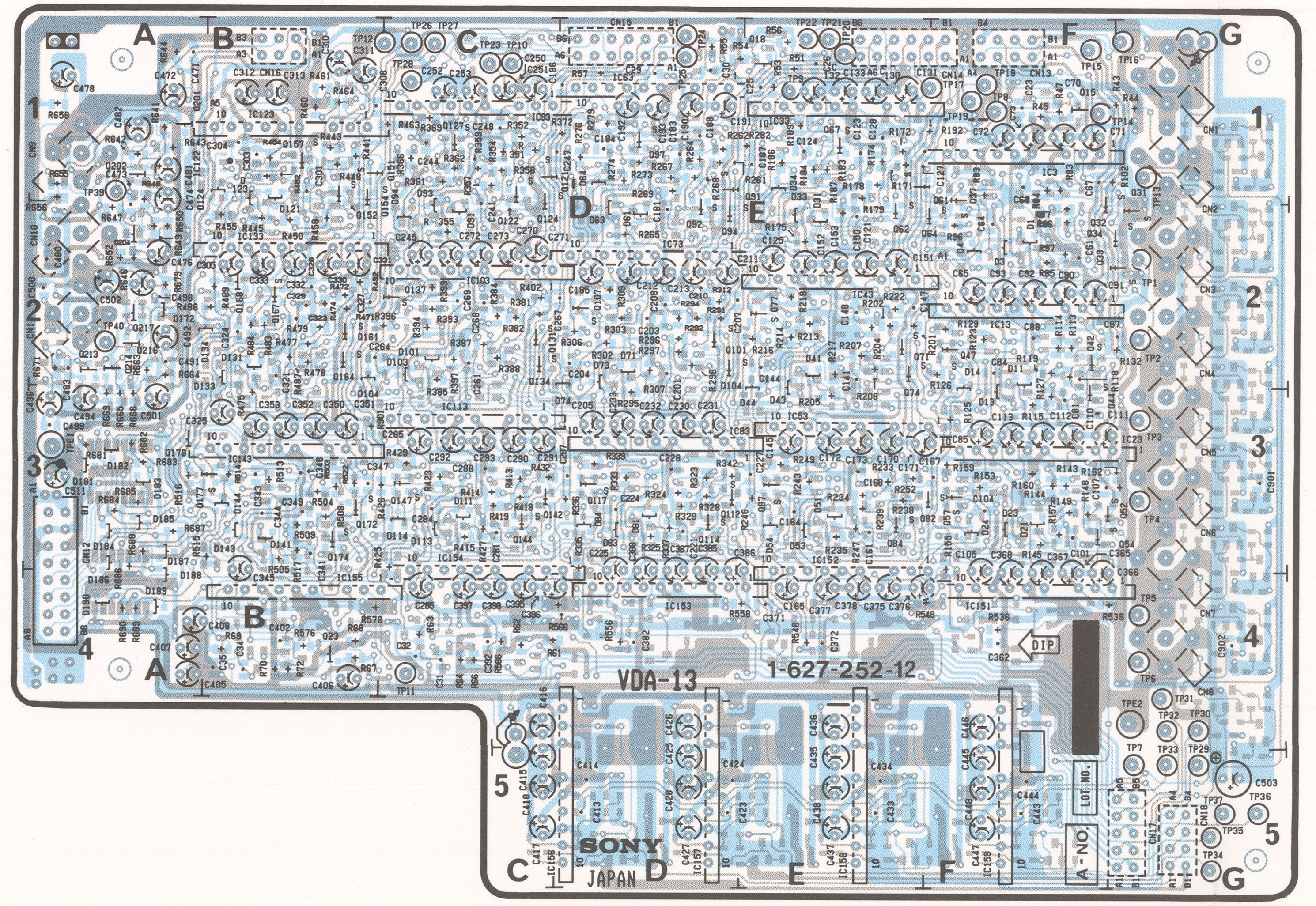
1-248-823-11 SOLDERING SIDE

VDA-13 1-248-823-11

CN1	F-1	D91	A-4	IC161	D-2	Q68	A-2	Q142	C-4	TP1	F-1
CN2	F-1	D92	A-4	IC162	F-4	Q71	B-2	Q143	C-4	TP2	F-1
CN3	F-1	D93	A-4			Q72	B-2	Q144	C-4	TP3	F-2
CN4	F-1	D94	A-4	Q1	F-1	Q73	B-2	Q145	D-4	TP4	F-2
CN5	F-2	D102	B-4	Q2	F-1	Q74	B-2	Q146	C-4	TP5	F-2
CN6	F-2	D104	B-5	Q3	F-1	Q75	C-2	Q147	C-4	TP6	F-2
CN7	F-2	D112	C-4	Q4	F-1	Q76	B-2	Q148	C-4	TP7	F-2
CN8	F-2	D121	A-5	Q5	F-1	Q77	B-2	Q151	A-5	TP8	A-1
CN9	F-3	D122	A-5	Q6	F-1	Q78	B-2	Q152	A-5	TP9	A-2
CN10	F-3	D123	A-5	Q7	F-2	Q79	A-3	Q153	A-5	TP10	A-4
CN11	F-3	D124	A-5	Q8	F-2	Q81	C-2	Q154	A-5	TP11	D-4
CN12	F-4	D131	B-5	Q9	F-2	Q83	C-2	Q155	A-5	TP12	A-4
CN13	A-1	D132	B-5	Q10	F-2	Q84	C-2	Q156	A-5	TP13	F-1
CN14	A-2	D133	B-5	Q11	F-2	Q85	D-2	Q157	A-5	TP14	A-1
CN15	A-3	D134	B-5	Q12	F-2	Q86	C-2	Q158	A-5	TP15	A-1
CN16	A-5	D141	C-5	Q13	F-2	Q87	C-2	Q161	B-5	TP16	F-1
CN17	E-1	D142	C-5	Q14	F-2	Q88	C-2	Q162	B-5	TP17	A-1
CN18	F-2	D143	C-5	Q16	A-1	Q91	A-3	Q163	B-5	TP18	A-1
		D144	C-5	Q17	A-2	Q92	A-3	Q164	B-5	TP19	A-1
D1	A-1	D161	F-3	Q18	A-2	Q93	A-3	Q165	B-5	TP20	A-2
D2	A-1	D162	F-3	Q20	A-4	Q94	A-3	Q166	B-5	TP21	A-2
D3	A-1	D171	F-3	Q21	D-4	Q95	A-3	Q167	B-5	TP22	A-2
D4	A-1	D172	F-3	Q22	D-4	Q96	A-3	Q168	B-5	TP23	A-4
D11	B-1	D181	F-4	Q23	D-5	Q97	A-3	Q171	C-5	TP24	A-3
D12	B-1	D182	F-4	Q24	D-5	Q98	A-3	Q172	C-5	TP25	A-3
D13	B-1	D183	F-4	Q25	F-1	Q101	B-3	Q173	C-5	TP26	A-4
D14	B-1	D184	F-4	Q26	F-1	Q103	B-3	Q174	C-5	TP27	A-4
D21	C-1	D185	F-4	Q31	F-1	Q104	B-3	Q175	C-5	TP28	A-4
D22	C-1	D187	F-4	Q32	A-1	Q105	B-4	Q176	C-5	TP29	F-2
D23	C-1	D188	F-4	Q33	A-1	Q106	B-3	Q181	D-1	TP30	F-2
D24	C-1	D190	F-4	Q34	A-1	Q107	B-3	Q182	D-2	TP31	F-2
D31	A-2			Q35	A-1	Q108	B-3	Q183	D-3	TP32	F-2
D32	A-2	IC3	A-1	Q36	A-1	Q111	C-3	Q184	D-4	TP33	F-2
D33	A-2	IC13	B-1	Q37	A-1	Q112	C-3	Q185	D-5	TP34	F-2
D34	A-2	IC23	C-1	Q38	A-1	Q113	C-3	Q186	E-4	TP35	F-2
D41	B-2	IC33	A-2	Q41	B-1	Q114	C-3	Q187	E-3	TP36	F-2
D43	B-2	IC43	B-2	Q42	B-1	Q115	D-3	Q188	E-2	TP37	F-2
D44	B-2	IC53	C-2	Q43	B-1	Q116	C-3	Q189	E-1	TP39	F-3
D51	C-2	IC63	A-3	Q44	B-1	Q117	C-3	Q201	F-3	TP40	F-3
D52	C-2	IC73	B-3	Q45	C-1	Q118	C-3	Q202	F-3		
D53	C-2	IC83	C-3	Q46	B-1	Q121	A-4	Q203	F-3	TPE1	F-4
D54	C-2	IC93	A-4	Q47	B-1	Q122	A-4	Q204	F-3	TPE2	F-2
D61	A-3	IC103	B-4	Q48	B-1	Q123	A-4	Q205	F-3		
D62	A-3	IC113	C-4	Q51	C-1	Q124	A-4	Q206	F-3		
D63	A-2	IC123	A-5	Q52	C-1	Q125	A-4	Q207	F-3		
D63	A-3	IC133	B-5	Q54	C-1	Q126	A-4	Q211	F-3		
D64	A-3	IC143	C-5	Q55	D-1	Q127	A-4	Q212	F-3		
D71	B-3	IC151	D-1	Q56	C-1	Q128	A-4	Q213	F-3		
D72	B-3	IC153	D-3	Q57	C-1	Q131	B-4	Q214	F-3		
D73	B-3	IC154	D-4	Q58	C-1	Q133	B-4	Q215	F-3		
D74	B-4	IC155	D-5	Q61	A-2	Q134	B-4	Q216	F-3		
D81	C-3	IC156	E-4	Q62	A-2	Q136	B-4	Q217	F-3		
D82	C-3	IC157	E-3	Q64	A-2	Q137	B-4				
D83	C-3	IC158	E-2	Q65	A-2	Q138	B-4				
D84	C-3	IC159	E-1	Q66	A-2	Q141	C-4				

VDA-13 BOARD

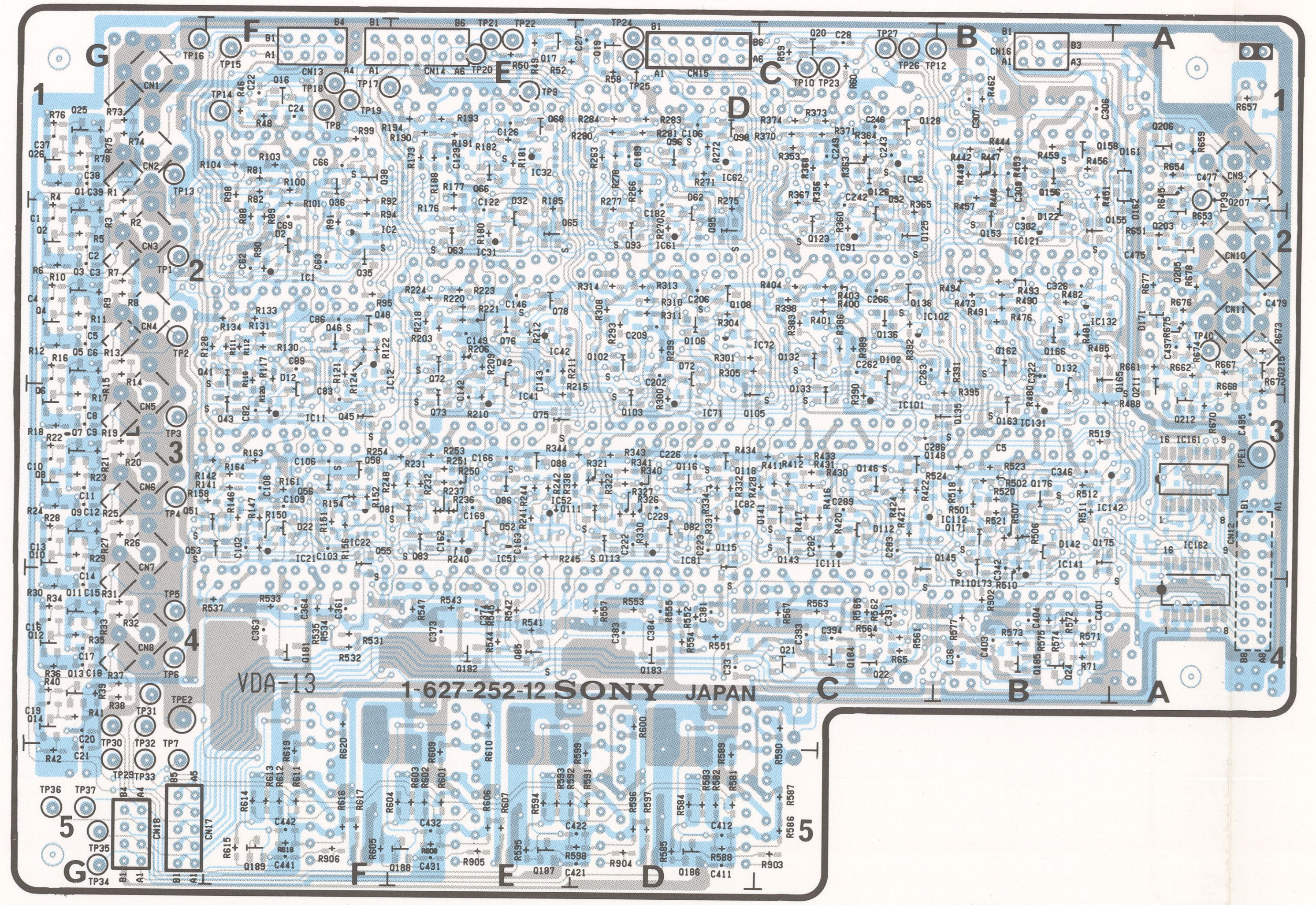
Serial No. 10201 –



1-627-252-12 COMPONENT SIDE

VDA-13 1-627-252-12

CN1	G-1	D91	C-2	IC52	E-3	Q15	F-1	Q101	D-2	Q168	B-2	TP24	D-1
CN2	G-2	D92	C-1	IC53	E-3	Q16	F-1	Q102	D-2	Q171	B-3	TP25	D-1
CN3	G-2	D93	C-1	IC61	D-2	Q17	E-1	Q103	D-3	Q172	B-3	TP26	C-1
CN4	G-2	D94	C-2	IC62	D-1	Q18	E-1	Q104	D-2	Q173	B-4	TP27	C-1
CN5	G-3	D101	C-2	IC63	D-1	Q19	D-1	Q105	D-3	Q174	B-3	TP28	C-1
CN6	G-3	D102	C-2	IC71	D-3	Q20	C-1	Q106	D-2	Q175	B-3	TP29	G-5
CN7	G-4	D103	C-2	IC72	C-2	Q21	C-4	Q107	D-2	Q176	B-3	TP30	G-4
CN8	G-4	D104	B-3	IC73	D-2	Q22	C-4	Q108	D-2	Q177	A-3	TP31	G-4
CN9	A-1	D111	C-3	IC81	D-3	Q23	B-4	Q111	D-3	Q178	A-3	TP32	G-4
CN10	A-2	D112	C-3	IC82	D-3	Q24	B-4	Q112	D-3	Q181	F-4	TP33	G-5
CN11	A-2	D113	C-3	IC83	D-3	Q25	G-1	Q113	D-3	Q182	E-4	TP34	G-5
CN12	A-3	D114	C-3	IC91	C-2	Q26	G-1	Q114	D-3	Q183	D-4	TP35	G-5
CN13	F-1	D121	B-2	IC92	C-1	Q31	G-1	Q115	D-3	Q184	C-4	TP36	G-5
CN14	E-1	D122	B-2	IC93	C-1	Q32	F-2	Q116	D-3	Q185	B-4	TP37	G-5
CN15	D-1	D123	B-1	IC101	C-3	Q33	F-2	Q117	D-3	Q186	D-5	TP39	A-1
CN16	B-1	D124	A-1	IC102	B-2	Q34	F-2	Q118	D-3	Q187	E-5	TP40	A-2
CN17	G-5	D131	B-2	IC103	C-2	Q35	F-2	Q121	D-1	Q188	E-5		
CN18	G-5	D132	B-2	IC111	C-3	Q36	F-1	Q122	C-2	Q189	F-5	TPE1	A-3
		D133	B-2	IC112	B-3	Q37	F-1	Q123	C-2	Q201	A-1	TPE2	G-4
D1	F-2	D134	A-2	IC113	C-3	Q38	F-1	Q124	C-2	Q202	A-1		
D2	F-2	D141	B-3	IC121	B-2	Q41	F-2	Q125	C-2	Q203	A-2		
D3	F-2	D142	B-3	IC122	A-1	Q42	F-2	Q126	C-1	Q204	A-2		
D4	F-2	D143	B-3	IC123	B-1	Q43	F-3	Q127	C-1	Q205	A-2		
D11	F-2	D144	B-3	IC131	B-3	Q44	F-3	Q128	C-1	Q206	A-1		
D12	F-2	D161	A-1	IC132	B-2	Q45	F-3	Q131	C-2	Q207	A-1		
D13	F-3	D162	A-1	IC133	B-2	Q46	F-2	Q132	C-2	Q211	A-2		
D14	F-2	D171	A-2	IC141	B-3	Q47	F-2	Q133	C-2	Q212	A-3		
D21	F-3	D172	A-2	IC142	A-3	Q48	F-2	Q134	C-2	Q213	A-2		
D22	F-3	D181	A-3	IC143	B-3	Q51	G-3	Q135	B-3	Q214	A-2		
D23	F-3	D182	A-3	IC151	F-4	Q52	G-3	Q136	C-2	Q215	A-2		
D24	F-3	D183	A-3	IC152	E-3	Q53	G-3	Q137	C-2	Q216	A-2		
D31	E-2	D184	A-3	IC153	D-4	Q54	G-3	Q138	C-2				
D32	E-2	D185	A-3	IC154	C-3	Q55	F-3	Q141	C-3	TP1	G-2		
D33	E-1	D186	A-4	IC155	B-4	Q56	F-3	Q142	C-3	TP2	G-2		
D34	E-1	D187	A-3	IC156	D-5	Q57	F-3	Q143	C-3	TP3	G-3		
D41	E-2	D188	A-4	IC157	D-5	Q58	F-3	Q144	C-3	TP4	G-3		
D42	E-2	D189	A-4	IC158	E-5	Q61	F-1	Q145	B-3	TP5	G-4		
D43	E-3	D190	A-4	IC159	F-5	Q62	E-2	Q146	C-3	TP6	G-4		
D44	E-3			IC161	A-3	Q63	E-2	Q147	C-3	TP7	G-5		
D51	E-3	IC1	F-2	IC162	A-3	Q64	E-2	Q148	C-3	TP8	F-1		
D52	E-3	IC2	F-2			Q65	E-2	Q151	C-1	TP9	E-1		
D53	E-3	IC3	F-1	Q1	G-1	Q66	E-1	Q152	B-2	TP10	C-1		
D54	E-3	IC11	F-3	Q2	G-2	Q67	E-1	Q153	B-2	TP11	C-4		
D61	D-2	IC12	F-2	Q3	G-2	Q68	E-1	Q154	B-2	TP12	B-1		
D62	D-1	IC13	F-2	Q4	G-2	Q71	E-2	Q155	B-2	TP13	G-1		
D63	D-2	IC21	F-3	Q5	G-2	Q72	E-2	Q156	B-1	TP14	F-1		
D64	D-1	IC22	F-3	Q6	G-3	Q73	E-3	Q157	B-1	TP15	F-1		
D71	D-2	IC23	G-3	Q7	G-3	Q74	E-3	Q158	B-1	TP16	G-1		
D72	D-2	IC31	E-2	Q8	G-3	Q75	E-3	Q161	B-2	TP17	F-1		
D73	D-2	IC32	E-1	Q9	G-3	Q76	E-2	Q162	B-2	TP18	F-1		
D74	D-3	IC33	E-1	Q10	G-3	Q77	E-2	Q163	B-3	TP19	F-1		
D81	D-3	IC41	E-3	Q11	G-4	Q78	E-2	Q164	B-2	TP20	E-1		
D82	D-3	IC42	E-2	Q12	G-4	Q81	E-3	Q165	A-2	TP21	E-1		
D83	D-3	IC43	E-2	Q13	G-4	Q97	D-1	Q166	B-2	TP22	E-1		
D84	D-3	IC51	E-3	Q14	G-4	Q98	D-1	Q167	B-2	TP23	C-1		



1-627-252-12 SOLDERING SIDE

VDA-13 1-627-252-12

CN1	G-1	D91	C-2	IC52	E-3	Q15	F-1	Q101	D-2	Q168	B-2	TP24	D-1
CN2	G-2	D92	C-1	IC53	E-3	Q16	F-1	Q102	D-2	Q171	B-3	TP25	D-1
CN3	G-2	D93	C-1	IC61	D-2	Q17	E-1	Q103	D-3	Q172	B-3	TP26	C-1
CN4	G-2	D94	C-2	IC62	D-1	Q18	E-1	Q104	D-2	Q173	B-4	TP27	C-1
CN5	G-3	D101	C-2	IC63	D-1	Q19	D-1	Q105	D-3	Q174	B-3	TP28	C-1
CN6	G-3	D102	C-2	IC71	D-3	Q20	C-1	Q106	D-2	Q175	B-3	TP29	G-5
CN7	G-4	D103	C-2	IC72	C-2	Q21	C-4	Q107	D-2	Q176	B-3	TP30	G-4
CN8	G-4	D104	B-3	IC73	D-2	Q22	C-4	Q108	D-2	Q177	A-3	TP31	G-4
CN9	A-1	D111	C-3	IC81	D-3	Q23	B-4	Q111	D-3	Q178	A-3	TP32	G-4
CN10	A-2	D112	C-3	IC82	D-3	Q24	B-4	Q112	D-3	Q181	F-4	TP33	G-5
CN11	A-2	D113	C-3	IC83	D-3	Q25	G-1	Q113	D-3	Q182	E-4	TP34	G-5
CN12	A-3	D114	C-3	IC91	C-2	Q26	G-1	Q114	D-3	Q183	D-4	TP35	G-5
CN13	F-1	D121	B-2	IC92	C-1	Q31	G-1	Q115	D-3	Q184	C-4	TP36	G-5
CN14	E-1	D122	B-2	IC93	C-1	Q32	F-2	Q116	D-3	Q185	B-4	TP37	G-5
CN15	D-1	D123	B-1	IC101	C-3	Q33	F-2	Q117	D-3	Q186	D-5	TP39	A-1
CN16	B-1	D124	A-1	IC102	B-2	Q34	F-2	Q118	D-3	Q187	E-5	TP40	A-2
CN17	G-5	D131	B-2	IC103	C-2	Q35	F-2	Q121	D-1	Q188	E-5		
CN18	G-5	D132	B-2	IC111	C-3	Q36	F-1	Q122	C-2	Q189	F-5	TPE1	A-3
		D133	B-2	IC112	B-3	Q37	F-1	Q123	C-2	Q201	A-1	TPE2	G-4
D1	F-2	D134	A-2	IC113	C-3	Q38	F-1	Q124	C-2	Q202	A-1		
D2	F-2	D141	B-3	IC121	B-2	Q41	F-2	Q125	C-2	Q203	A-2		
D3	F-2	D142	B-3	IC122	A-1	Q42	F-2	Q126	C-1	Q204	A-2		
D4	F-2	D143	B-3	IC123	B-1	Q43	F-3	Q127	C-1	Q205	A-2		
D11	F-2	D144	B-3	IC131	B-3	Q44	F-3	Q128	C-1	Q206	A-1		
D12	F-2	D161	A-1	IC132	B-2	Q45	F-3	Q131	C-2	Q207	A-1		
D13	F-3	D162	A-1	IC133	B-2	Q46	F-2	Q132	C-2	Q211	A-2		
D14	F-2	D171	A-2	IC141	B-3	Q47	F-2	Q133	C-2	Q212	A-3		
D21	F-3	D172	A-2	IC142	A-3	Q48	F-2	Q134	C-2	Q213	A-2		
D22	F-3	D181	A-3	IC143	B-3	Q51	G-3	Q135	B-3	Q214	A-2		
D23	F-3	D182	A-3	IC151	F-4	Q52	G-3	Q136	C-2	Q215	A-2		
D24	F-3	D183	A-3	IC152	E-3	Q53	G-3	Q137	C-2	Q216	A-2		
D31	E-2	D184	A-3	IC153	D-4	Q54	G-3	Q138	C-2				
D32	E-2	D185	A-3	IC154	C-3	Q55	F-3	Q141	C-3	TP1	G-2		
D33	E-1	D186	A-4	IC155	B-4	Q56	F-3	Q142	C-3	TP2	G-2		
D34	E-1	D187	A-3	IC156	D-5	Q57	F-3	Q143	C-3	TP3	G-3		
D41	E-2	D188	A-4	IC157	D-5	Q58	F-3	Q144	C-3	TP4	G-3		
D42	E-2	D189	A-4	IC158	E-5	Q61	F-1	Q145	B-3	TP5	G-4		
D43	E-3	D190	A-4	IC159	F-5	Q62	E-2	Q146	C-3	TP6	G-4		
D44	E-3			IC161	A-3	Q63	E-2	Q147	C-3	TP7	G-5		
D51	E-3	IC1	F-2	IC162	A-3	Q64	E-2	Q148	C-3	TP8	F-1		
D52	E-3	IC2	F-2			Q65	E-2	Q151	C-1	TP9	E-1		
D53	E-3	IC3	F-1	Q1	G-1	Q66	E-1	Q152	B-2	TP10	C-1		
D54	E-3	IC11	F-3	Q2	G-2	Q67	E-1	Q153	B-2	TP11	C-4		
D61	D-2	IC12	F-2	Q3	G-2	Q68	E-1	Q154	B-2	TP12	B-1		
D62	D-1	IC13	F-2	Q4	G-2	Q71	E-2	Q155	B-2	TP13	G-1		
D63	D-2	IC21	F-3	Q5	G-2	Q72	E-2	Q156	B-1	TP14	F-1		
D64	D-1	IC22	F-3	Q6	G-3	Q73	E-3	Q157	B-1	TP15	F-1		
D71	D-2	IC23	G-3	Q7	G-3	Q74	E-3	Q158	B-1	TP16	G-1		
D72	D-2	IC31	E-2	Q8	G-3	Q75	E-3	Q161	B-2	TP17	F-1		
D73	D-2	IC32	E-1	Q9	G-3	Q76	E-2	Q162	B-2	TP18	F-1		
D74	D-3	IC33	E-1	Q10	G-3	Q77	E-2	Q163	B-3	TP19	F-1		
D81	D-3	IC41	E-3	Q11	G-4	Q78	E-2	Q164	B-2	TP20	E-1		
D82	D-3	IC42	E-2	Q12	G-4	Q81	E-3	Q165	A-2	TP21	E-1		
D83	D-3	IC43	E-2	Q13	G-4	Q97	D-1	Q166	B-2	TP22	E-1		
D84	D-3	IC51	E-3	Q14	G-4	Q98	D-1	Q167	B-2	TP23	C-1		

VDA-13 (1/2) BOARD

P/C MON/ VIDEO IN
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PB IN
B IN
PR IN
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C-200
C-201
C-202

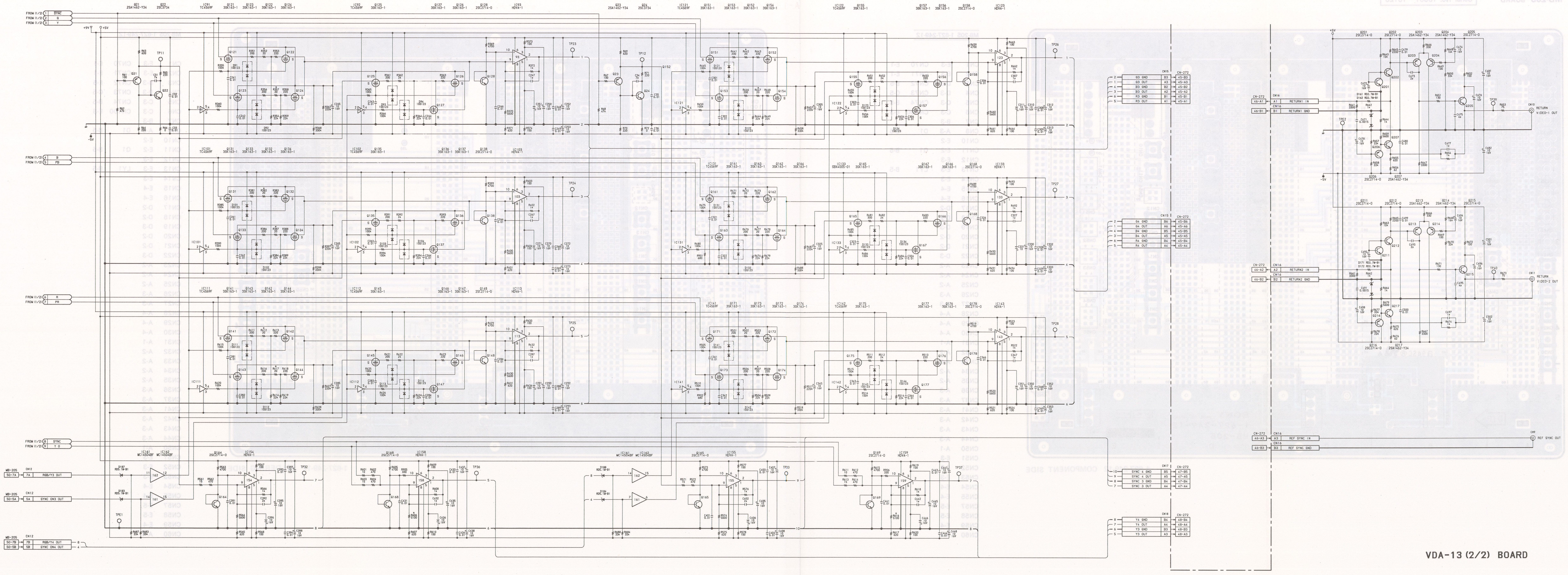
*NOTE

REF NO.	CHANGE INFORMATION	SER NO.
R586	5600 → 5100	10101-
R596	5600 → 5100	
R82, R112 R142, R172 R202, R232 R262, R292 R322	CHOISE 11Ω 13Ω 15Ω 16Ω 20Ω 24Ω 27Ω 30Ω	10001~
R87, R117 R147, R177 R207, R237 R267, R297 R327	CHOISE 11Ω 12Ω 15Ω 16Ω 20Ω 24Ω 27Ω 30Ω	

MB-205	CN12		
50-8B	8B	WF RGB/Y OUT	1
50-8A	8A	WF SYNC ON OUT	2
50-6A	6A	RGB/Y1 OUT	3
50-4A	4A	SYNC ON1 OUT	4
50-6B	6B	RGB/Y2 OUT	5
50-4B	4B	SYNC ON2 OUT	6

VDA-13 (1/2) BOARD

VDA-13 (2/2) BOARD


FROM (1/2) 1 SYNC
FROM (1/2) 2 R
FROM (1/2) 3 Y
FROM (1/2) 4 B
FROM (1/2) 5 PB
FROM (1/2) 6 R
FROM (1/2) 7 PR
FROM (1/2) 8 SYNC
FROM (1/2) 9 Y 0
MB-205 50-7A CN12 7A RGB/Y3 OUT
MB-205 50-5A CN12 5A SYNC ON3 OUT
MB-205 50-7B CN12 7B RGB/Y4 OUT
50-5B 5B SYNC ON4 OUT
IC161 MC14504BF
IC162 MC14504BF
Q164 2SC2714-O
IC154 HDVA-1
TPE1
CN15 CN-272
G3 GND B3 45-B3
G3 OUT A3 45-A3
B3 GND B2 45-B2
B3 OUT A2 45-A2
R3 GND B1 45-B1
R3 OUT A1 45-A1
G4 GND B6 45-B6
G4 OUT A6 45-A6
B4 GND B5 45-B5
B4 OUT A5 45-A5
R4 GND B4 45-B4
R4 OUT A4 45-A4
CN-272 46-A1 CN16 A1 RETURN1 IN
46-B1 CN16 B1 RETURN1 GND
CN-272 46-A2 CN16 A2 RETURN2 IN
46-B2 CN16 B2 RETURN2 GND
46-A3 CN16 A3 REF SYNC IN
46-B3 CN16 B3 REF SYNC GND
CN8 RETURN VIDEO-1 OUT
CN11 RETURN VIDEO-2 OUT
CN9 REF SYNC OUT
SYNC 4 GND
SYNC 4 OUT
SYNC 3 GND
SYNC 3 OUT
Y4 GND
Y4 OUT
Y3 GND
Y3 OUT
-5V

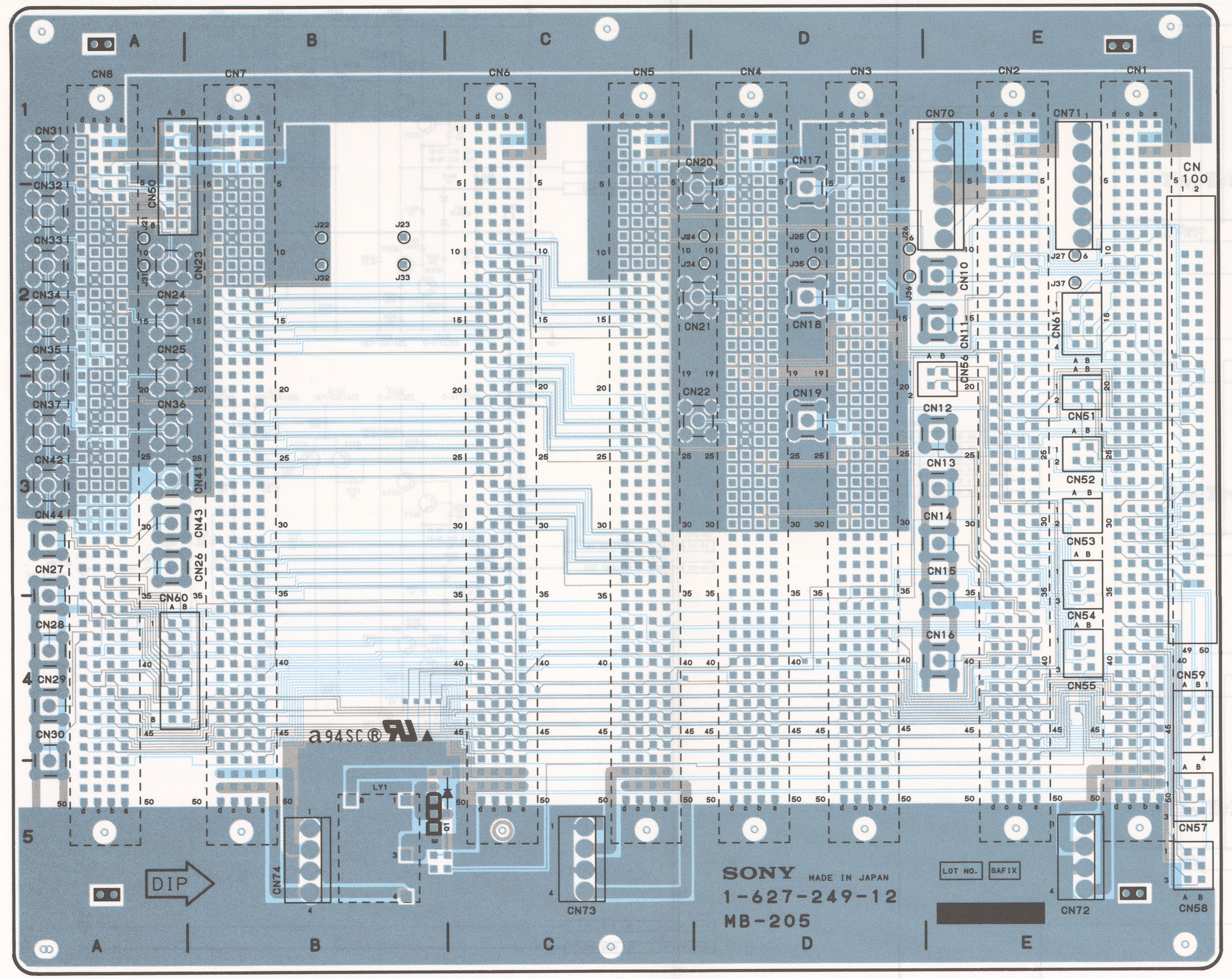
VDA-13 (2/2) BOARD

*NOTE

REF NO.	CHANGE INFORMATION	SER NO.
R606	5600 → 5100	10101-
R616	5600 → 5100	
R352 R382 R412 R442 R472 R502	CHOISE { 11Ω 13Ω 15Ω 16Ω 20Ω 24Ω 27Ω 30Ω	10001-
R357 R387 R417 R447 R477 R507	CHOISE { 11Ω 12Ω 15Ω 16Ω 20Ω 24Ω 27Ω 30Ω	

MB-205 BOARD

Serial No. 10001 – 10120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SONY MADE IN JAPAN
1-627-249-12
MB-205
LOT NO.
a9432®

1-627-249-12 COMPONENT SIDE

MB-205 1-627-249-12

CN1	E-3	CN70	E-1
CN2	E-3	CN71	E-1
CN3	D-3	CN72	E-5
CN4	D-3	CN73	C-5
CN5	C-3	CN74	B-5
CN6	C-3	CN100	E-3
CN7	B-3		
CN8	A-3	D1	B-5
CN10	E-2		
CN11	E-2	Q1	B-5
CN12	E-3		
CN13	E-3	LY1	B-5
CN14	E-3		
CN15	E-4		
CN16	E-4		
CN17	D-2		
CN18	D-2		
CN19	D-3		
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CN21	D-2		
CN22	D-3		
CN23	A-2		
CN24	A-2		
CN25	A-2		
CN26	A-3		
CN27	A-3		
CN28	A-4		
CN29	A-4		
CN30	A-4		
CN31	A-1		
CN32	A-2		
CN33	A-2		
CN34	A-2		
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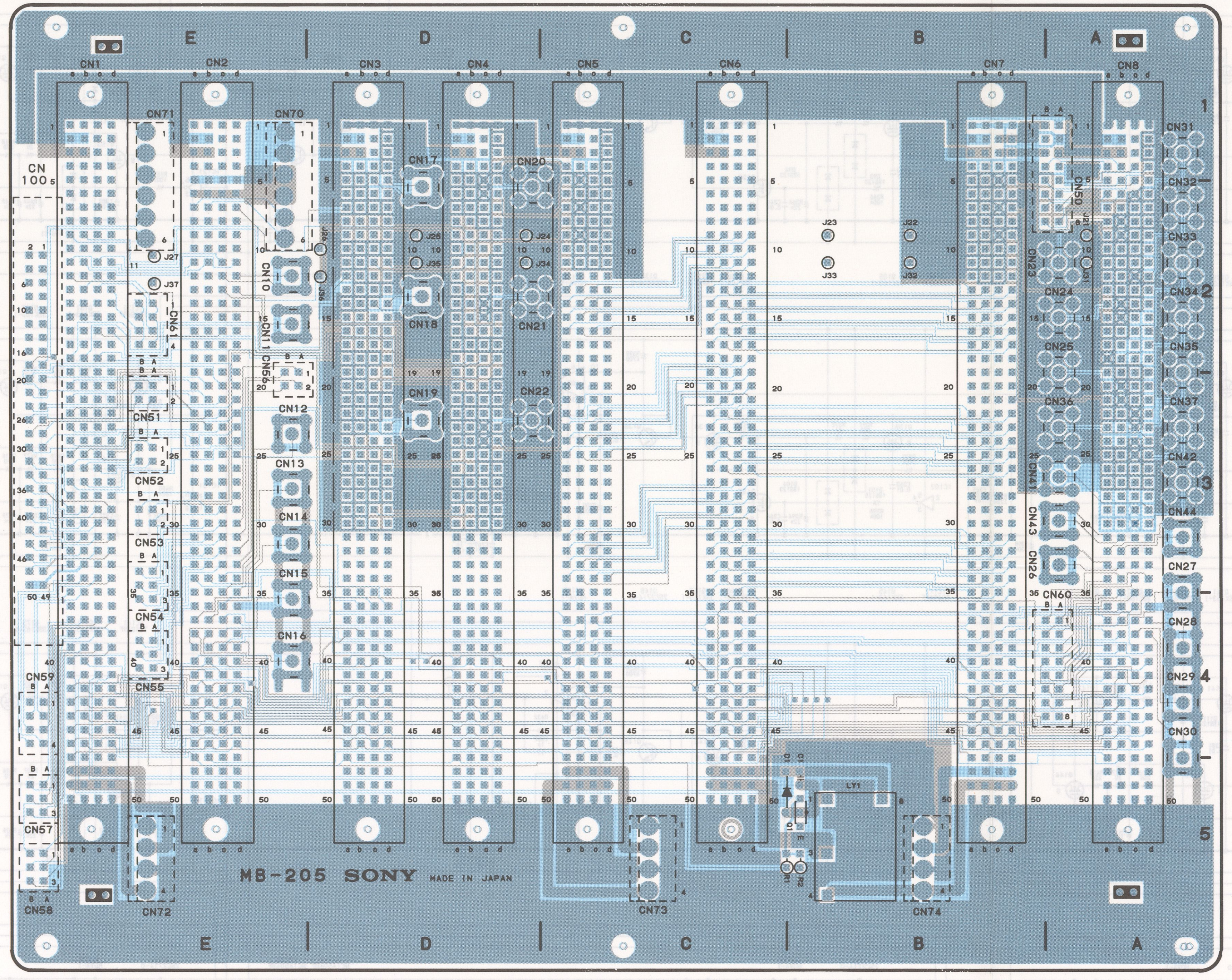
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CN58
CN59
CN60
CN70
CN71
CN72
CN73
CN74
CN100
LY1
MB-205 SONY MADE IN JAPAN

1-627-249-12 SOLDERING SIDE

MB-205 1-627-249-12

CN1	E-3	CN70	E-1
CN2	E-3	CN71	E-1
CN3	D-3	CN72	E-5
CN4	D-3	CN73	C-5
CN5	C-3	CN74	B-5
CN6	C-3	CN100	E-3
CN7	B-3		
CN8	A-3	D1	B-5
CN10	E-2		
CN11	E-2	Q1	B-5
CN12	E-3		
CN13	E-3	LY1	B-5
CN14	E-3		
CN15	E-4		
CN16	E-4		
CN17	D-2		
CN18	D-2		
CN19	D-3		
CN20	D-2		
CN21	D-2		
CN22	D-3		
CN23	A-2		
CN24	A-2		
CN25	A-2		
CN26	A-3		
CN27	A-3		
CN28	A-4		
CN29	A-4		
CN30	A-4		
CN31	A-1		
CN32	A-2		
CN33	A-2		
CN34	A-2		
CN35	A-2		
CN36	A-3		
CN37	A-3		
CN41	A-3		
CN42	A-3		
CN43	A-3		
CN44	A-3		
CN50	A-1		
CN51	E-3		
CN52	E-3		
CN53	E-3		
CN54	E-4		
CN55	E-4		
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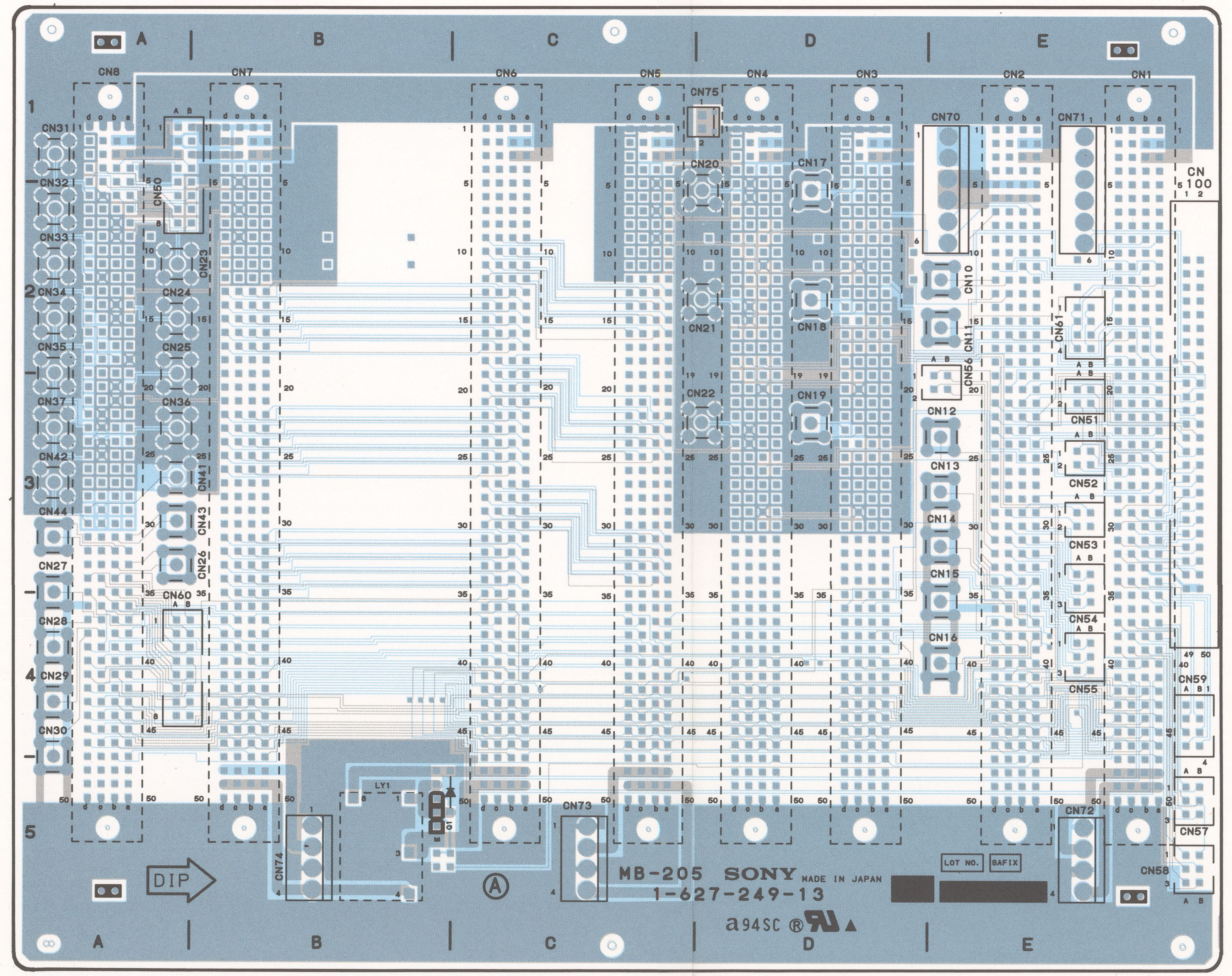
CN58	E-5		
CN59	E-4		
CN60	A-4		

MB-205 BOARD

Serial No. 10201 –


A
B
C
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E
CN1
CN2
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CN4
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CN10
CN100
CN70
CN71
CN75
DIP
LY1
CN72
CN73
CN74
CN57
CN58
CN59
Ⓐ
MB-205 SONY MADE IN JAPAN
1-627-249-13
LOT NO.
a94SC

1-627-249-13 COMPONENT SIDE

MB-205 1-627-249-13	
CN1	E-1
CN2	E-1
CN3	D-1
CN4	D-1
CN5	C-1
CN6	C-1
CN7	B-1
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CN10	E-2
CN25	A-2
CN26	B-3
CN27	A-3
CN28	A-4
CN29	A-4
CN30	A-4
CN31	A-1
CN32	A-2
CN33	A-2
CN34	A-2
CN35	A-2
CN36	A-3
CN37	A-3
CN41	B-3
CN42	A-3
CN43	B-3
CN44	A-3
CN50	A-2
CN51	E-3
CN52	E-3
CN53	E-3
CN54	E-4
CN55	E-4
CN56	E-2
CN57	E-5
CN58	E-5
CN59	E-4
CN60	A-4
CN61	E-2
CN70	E-1
CN71	E-1
CN72	E-5
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CN75	D-1
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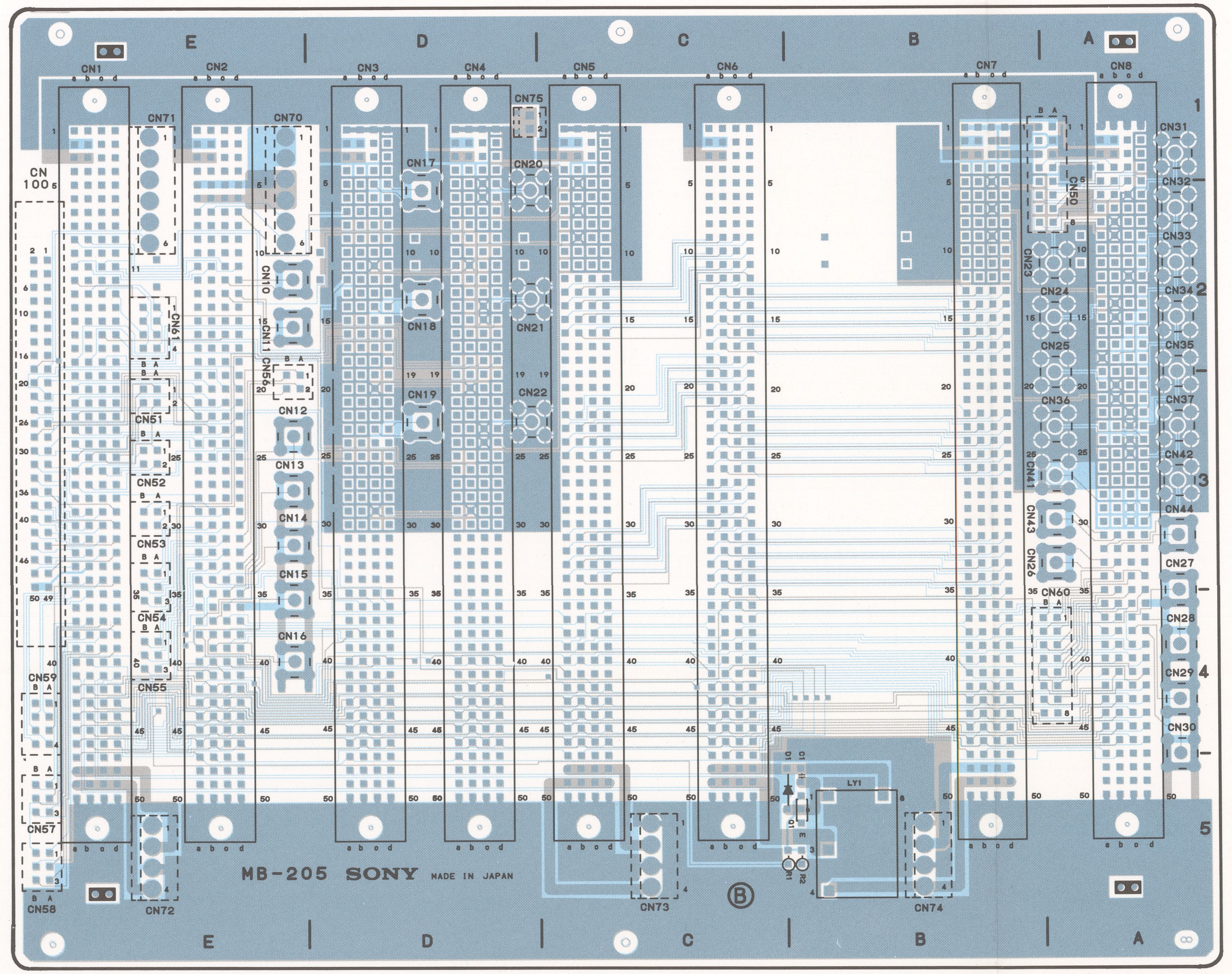
D1	B-4
LY1	B-5
Q1	B-6


E
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C
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CN1
CN2
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CN71
CN75
LY1
CN72
CN73
CN74
CN57
CN58
CN59
Ⓑ
MB-205 SONY MADE IN JAPAN

1-627-249-13 SOLDERING SIDE

MB-205 1-627-249-13	
CN1	E-1
CN2	E-1
CN3	D-1
CN4	D-1
CN5	C-1
CN6	C-1
CN7	B-1
CN8	A-1
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CN32	A-2
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CN44	A-3
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CN51	E-3
CN52	E-3
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CN55	E-4
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CN57	E-5
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CN61	E-2
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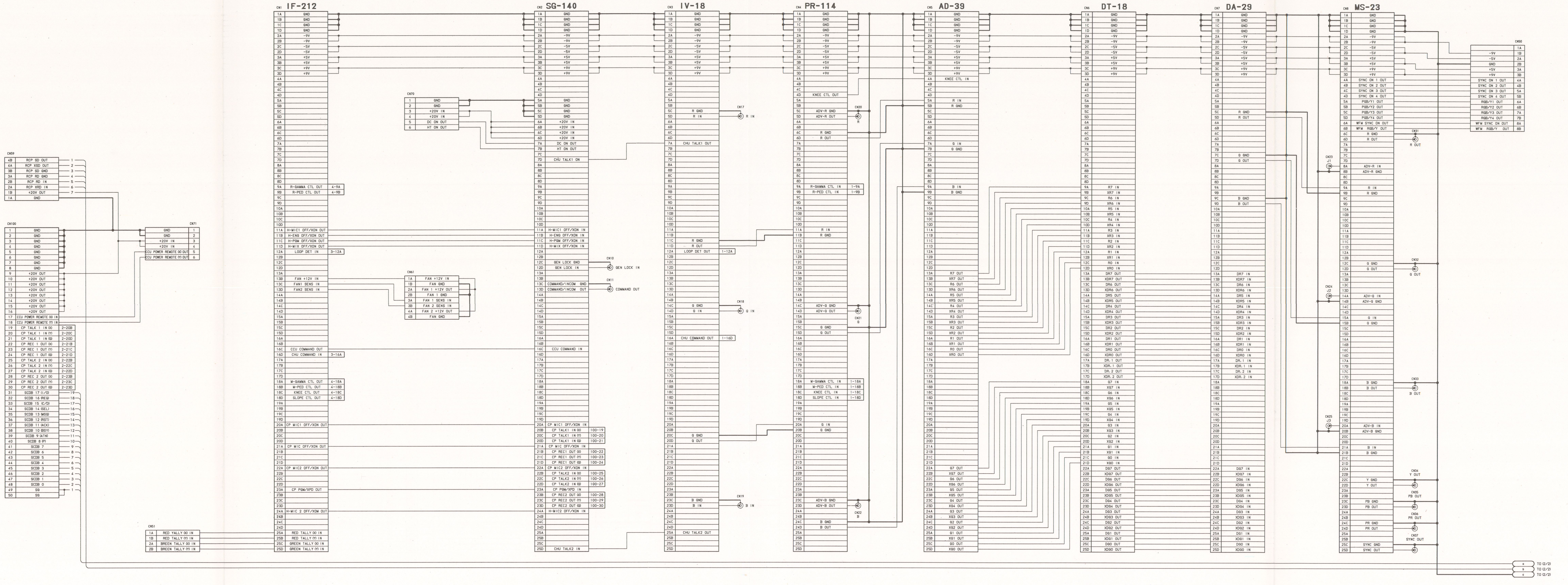
CN71	E-1
CN72	E-5
CN73	C-5
CN74	B-5
CN75	D-1
CN100	E-1
D1	B-4
LY1	B-5
Q1	B-6

MB-205 (1/2) BOARD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SG-140
IV-18
PR-114
AD-39
DT-18
DA-29
MS-23
H-MIC1 OFF/XON IN
H-ENG OFF/XON IN
H-PGM OFF/XON IN
H-MIX OFF/XON IN
GEN LOCK GND
GEN LOCK IN
CN10
GEN LOCK IN
COMMAND/INCOM GND
COMMAND/INCOM OUT
CN11
COMMAND OUT
R GND
R OUT
LOOP DET OUT
1-12A
G GND
G IN
CN18
G IN
CHU COMMAND OUT
1-16D
a
b
c
TO (2/2)
TO (2/2)
TO (2/2)
1
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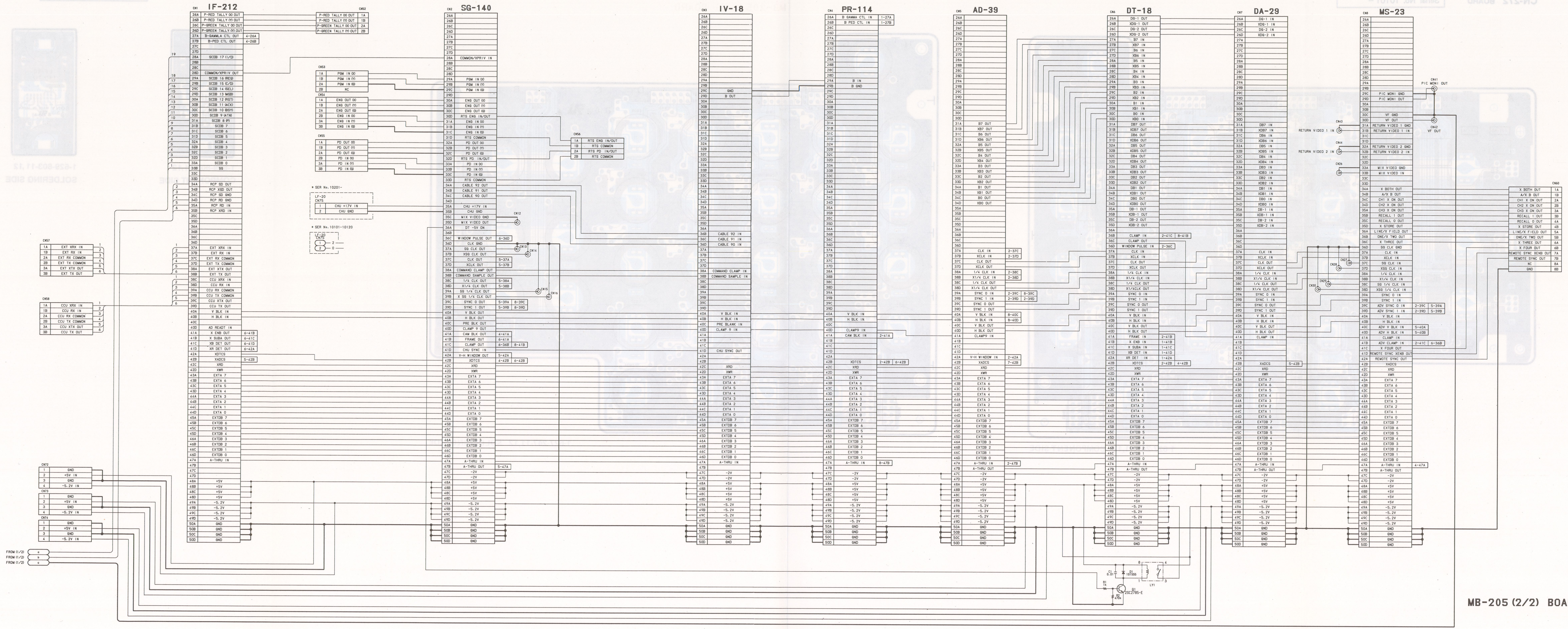
3
4
5
6

MB-205 (1/2) BOARD

MB-205 (2/2) BOARD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SG-140
IV-18
PR-114
AD-39
DT-18
DA-29
MS-23
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CN49
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CN52
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CN54
CN55
CN56
CN57
CN58
CN59
CN60
LF-20
RETURN VIDEO 1 IN
RETURN VIDEO 2 IN
PIC MON1 OUT
VF OUT
FROM (1/2)

MB-205 (2/2) BOARD

1
2
3
4
5
6

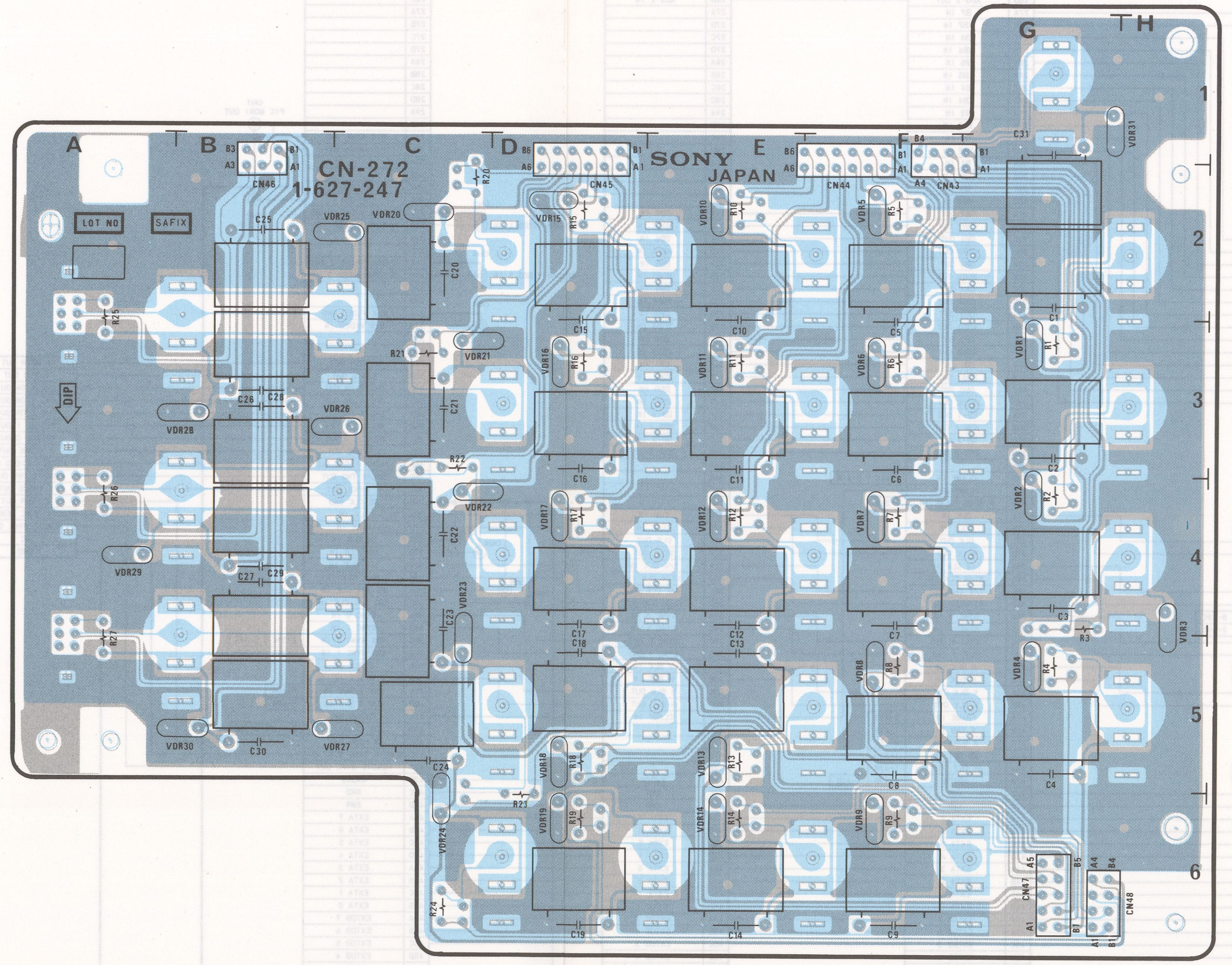
A B C D E F G H I J K L M

CN-272 CN-272

LF-20 LF-20

CN-272 BOARD

Serial No. 10101 –


CN-272
1-627-247
SONY
JAPAN
A
B
C
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G
H
1
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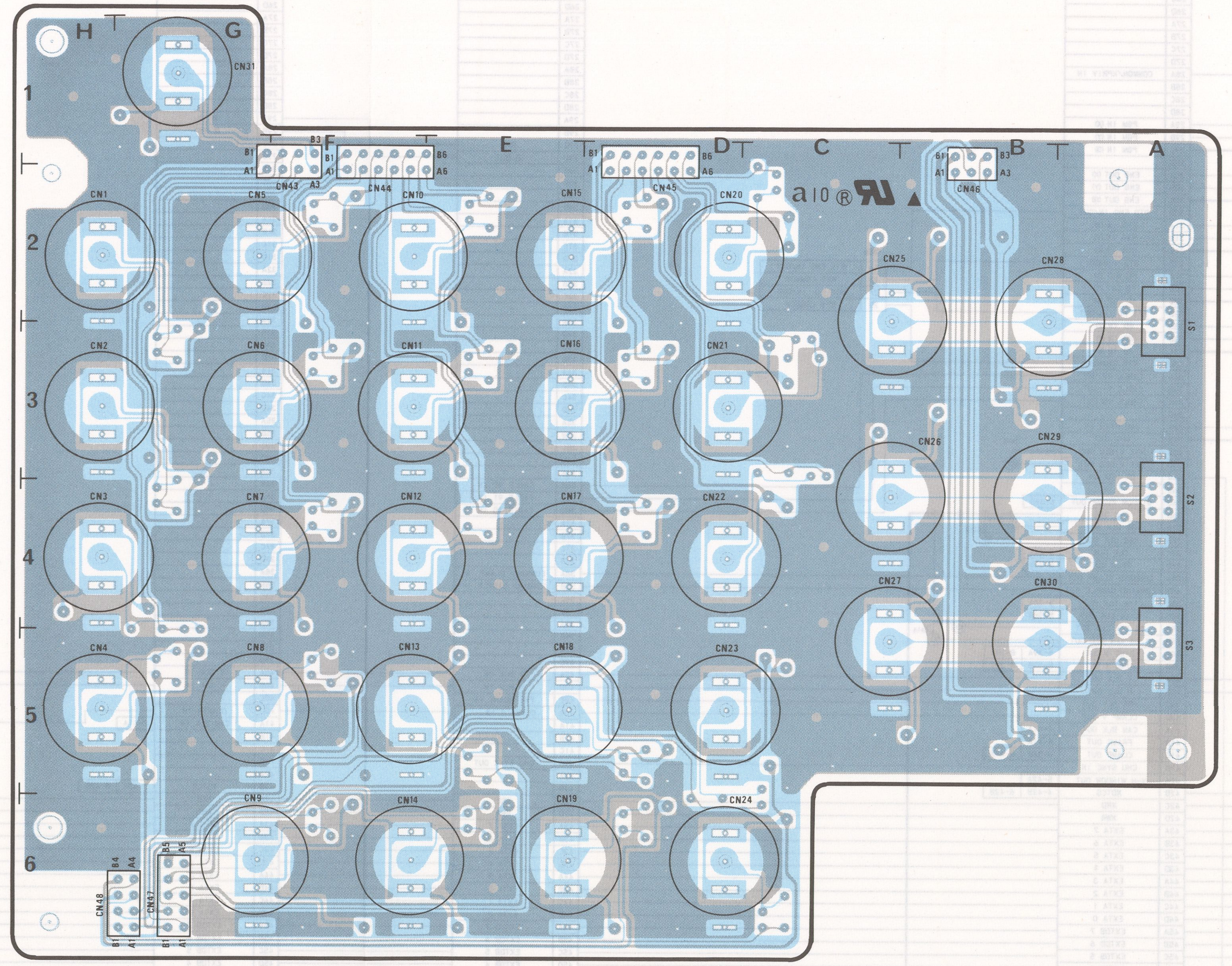
6

1-627-247-11,12 COMPONENT SIDE


H
G
F
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A
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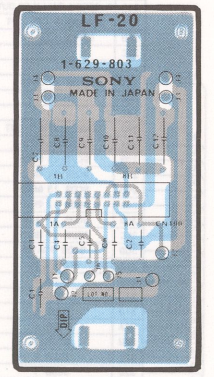
6

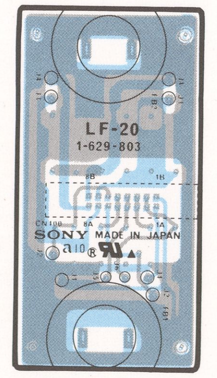
1-627-247-11,12 SOLDERING SIDE

LF-20 BOARD

Serial No. 10101 –


LF-20
1-629-803
SONY
MADE IN JAPAN

1-629-803-11,12
COMPONENT SIDE


LF-20
1-629-803
SONY MADE IN JAPAN

1-629-803-11,12
SOLDERING SIDE

FRAME WIRING

Serial No. 10001-10009

CN-272 BOARD
MB-205 BOARD
VAD-13 BOARD

CN250
CN260 LINE IN
CN270 LINE OUT
CN200 RCP
CAMERA
CN400 RECEPTACLE
FAN
P/C MONI TALLY
EXT VIEW
MB-205
CONTROL UNIT
CN300 CONTROL UNIT
POWER
CN310 POWER
CN210 EXT IN
CN220 CCU
GEN-LOCK IN
COMMAND OUT
VDA-13
MF CONT
CN-272
1
2
3
4
5
6

FRAME
CN-272 BOARD
MB-205 BOARD
VDA-13 BOARD

A B C D E F G H I J K L M

FRAME WIRING

Serial No. 10101-

CN-272 BOARD
MB-205 BOARD
VAD-13 BOARD

LF-20
MB-205
VDA-13
CN-272
CN250
CN260 WALKIE
CN270 RTS
CN200 RCP
CAMERA
CN400
FAN
PIC MONI TALLY
CONTROL UNIT
CN300
EXT VIEW
POWER
CN310 POWER
CN210 EXT IN
CN220 CCU
MF CONT
1
2
3
4
5
6

FRAME
CN-272 BOARD
MB-205 BOARD
VDA-13 BOARD

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replace Parts that are supplied from Sony Parts Center can sometimes have different shape and external appearance than what are actually used in equipment. This is due to **"accommodating the improved parts and/or engineering changes"** or **"standardization of genuine parts."**

   .This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present."

   .Regarding engineering parts and diagrams changes in our engineering department, refer to Sony service bulletins and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
BT	BATTERY	FB	FERRITE BEAD	RB	RESISTOR BLOCK
BZ	BUZZER	FL	FILTER	RV	VARIABLE RESISTOR
C	CAPACITORT	IC	IC	S	SWITCH
CN	CONNECTOR	L	INDUCTOR	T	TRANSFORMER
CP	COMBINATION PARTS	LY	RYLAY	TH	THERMISTOR
CV	VARIABLE CAPACITOR	LV	VARIABLE INDUCTOR	TM	TIMER
D	DIODE	Q	TRANSISTOR	VDR	VARISTOR
DL	DELAY LINE	R	RESISTOR	X	OSCILLATOR

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

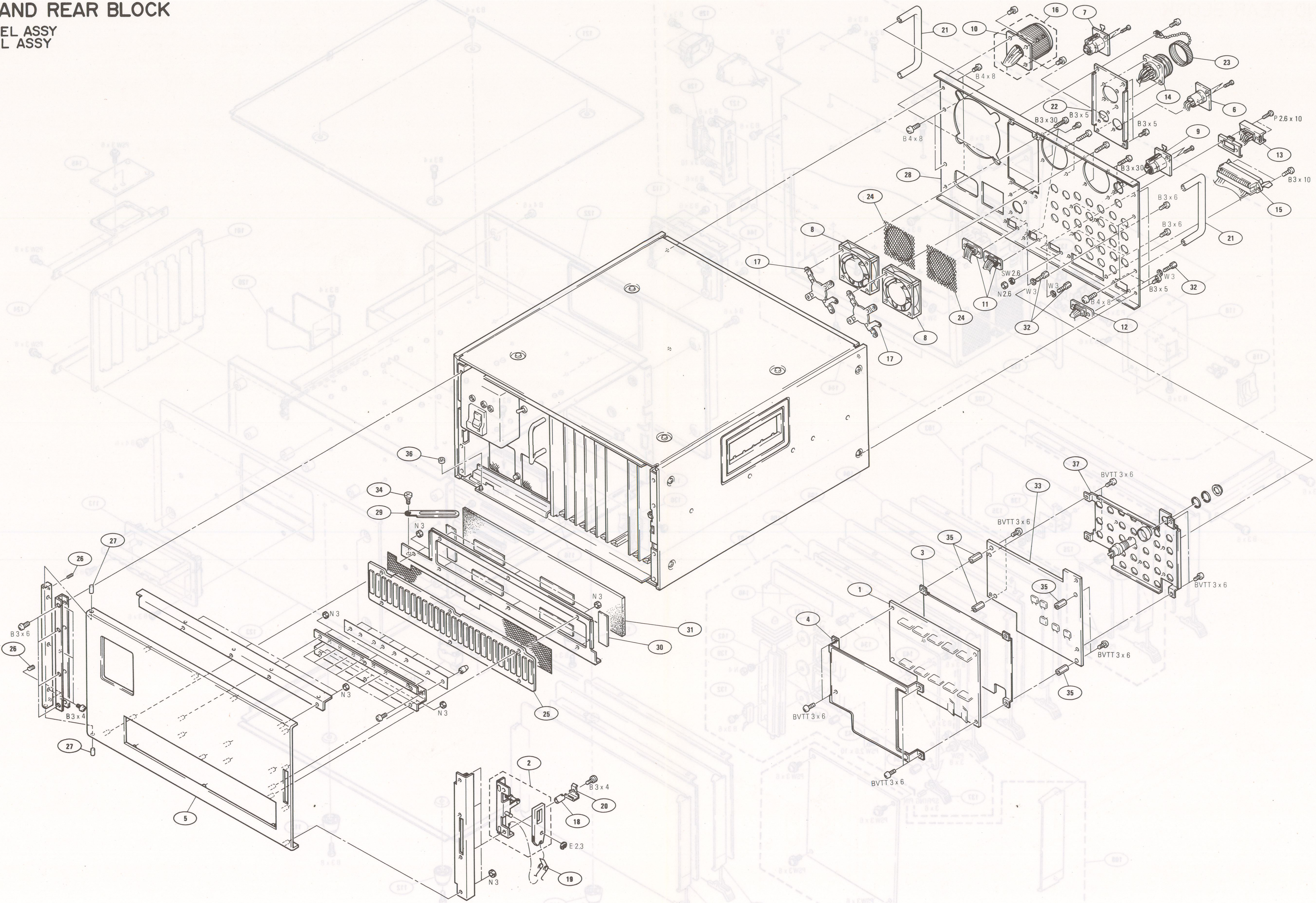
EXPLODED VIEW

FRONT AND REAR BLOCK

No.	Part No.	SP	Description
1	A-7513-801-A	o	MOUNTED CIRCUIT BOARD, VDA-13
2	X-2249-307-6	o	HANDLE ASSY, SWITCHING
3	X-3693-540-1	o	PLATE (1) ASSY, SHIELD, VDA
4	X-3693-541-1	o	PLATE (2) ASSY, SHIELD, VDA
5	X-3693-551-1	o	PANEL ASSY, FRONT
6	1-509-176-31	s	CONNECTOR, 3P, MALE "LINE IN"
7	1-509-184-31	s	CONNECTOR, 3P, FEMALE "LINE OUT"
8	1-541-611-11	s	MOTOR FAN, DC
9	1-561-847-31	s	CONNECTOR, 7P, FEMALE "PIC MINI TALLY"
10	1-562-788-11	o	CONNECTOR, 11P, FEMALE "CAMERA"
11	1-563-815-21	s	CONNECTOR, D-SUB 9P, FEMALE "EXT IN" "CCU"
12	1-563-816-11	s	CONNECTOR, D-SUB 15P, FEMALE "WF CONT"
13	1-564-968-11	s	CONNECTOR, 16P, FEMALE "RCP"
14	1-564-971-11	o	CONNECTOR, 19P, MALE "INCOM/TALLY/PGM"
15	1-936-368-11	o	HARNESS (CONT)
16	1-942-241-11	o	HARNESS (CHU)
17	2-112-820-01	o	BRACKET, HEAT SINK
18	2-249-362-00	o	STUD
19	2-249-373-00	o	SPRING
20	3-694-107-02	o	GUIDE, SPRING
21	2-257-735-00	o	HANDLE
22	2-355-318-01	o	PANEL (A), INCOME
23	2-355-349-01	s	CAP, CONNECTOR
24	3-675-898-00	o	PLATE, VENTILATION
25	3-699-969-11	o	WINDOW, VENTILATION
26	3-701-508-00	s	SET SCREW, DOUBLE POINT 3X6
27	3-703-360-03	o	PIN, PARALLEL (DIA. 3X10)
28	3-731-745-01	o	PANEL, REAR
29	3-731-795-01	o	STAY
30	3-734-211-01	o	TAPE (A)
31	3-734-212-01	o	FILTER, DUST PROTECTION
32	4-603-275-00	s	LOCK, SCREW
33	1-627-247-12	o	PRINTED CIRCUIT BOARD, CN-272
34	3-630-415-00	s	SCREW, STEP, M3
35	2-280-622-31	o	SUPPORT(M3X12), HEXAGON
36	3-734-229-02	s	ROLLER
37	3-731-763-01	o	PANEL, CONNECTOR

FRONT AND REAR BLOCK

FRONT PANEL ASSY
REAR PANEL ASSY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16
7
23
B4x8
22
B3x5
B3x30
14
B3x5
6
P2.6x10
9
13
B4x8
28
B3x30
B3x10
15
24
B3x6
B3x6
21
8
17
SW2.6
N2.6
W3
W3
11
W3
B3x5
32
B4x8
24
32
12
8
17
36
34
29
N3
37
BVTT3x6
33
BVTT3x6
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3
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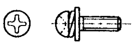
1
BVTT3x6
4
35
BVTT3x6
BVTT3x6
27
26
N3
N3
31
30
B3x6
26
N3
N3
25
B3x4
27
2
B3x4
20
18
5
E2.3
19
N3

CHASSIS BLOCK

No.	Part No.	SP	Description
101	A-7513-799-A	o	MOUNTED CIRCUIT BOARD, MB-205
102	A-7513-802-A	o	MOUNTED CIRCUIT BOARD, IF-212
103	A-7513-803-B	o	MOUNTED CIRCUIT BOARD, SG-140 (WITH SG-155 BOARD)
104	A-7513-804-A	o	MOUNTED CIRCUIT BOARD, IV-18
105	A-7513-805-A	o	MOUNTED CIRCUIT BOARD, PR-114
106	A-7513-806-A	o	MOUNTED CIRCUIT BOARD, AD-39
107	A-7513-807-A	o	MOUNTED CIRCUIT BOARD, DT-18
108	A-7513-808-A	o	MOUNTED CIRCUIT BOARD, DT-19
109	A-7513-809-A	o	MOUNTED CIRCUIT BOARD, DA-29
110	A-7513-810-B	o	MOUNTED CIRCUIT BOARD, MS-23
111	X-2249-306-0	o	BRACKET ASSY
112	X-3556-910-0	s	FOOT ASSY, MF
113	X-3642-018-0	s	HANDLE ASSY
114	⚠1-413-404-11	s	REGULATOR, SWITCHING (HDCP-2)
115	3-651-850-03	s	GUARD, P SWITCH
116	3-673-676-31	o	RAIL, PC BOARD GUIDE
117	3-731-732-01	o	RETAINER, POWER UNIT
118	3-731-741-01	o	PANEL, FRONT
119	3-731-794-01	o	RAIL, GUIDE
120	3-733-003-01	o	HOOD
121	3-733-012-01	o	COVER
122	3-733-013-01	o	COVER (LEFT), SIDE
123	3-733-014-01	o	COVER (RIGHT), SIDE
124	3-734-216-01	o	BRACKET, LF-20
125	A-7520-410-A	o	MOUNTED CIRCUIT BOARD, SG-155
126	1-563-818-11	s	CONNECTOR, D-SUB 37P, FEMALE
127	2-118-806-01	o	PLATE (MALE), PIN, GUIDE
128	2-118-821-01	o	HANDLE
129	2-990-241-01	o	HOLDER (A), PLUG
130	1-566-357-11	s	CONNECTOR, 37P MALE
131	⚠1-552-060-21	s	SWITCH, ROCKER(AC POWER)
132	1-571-792-11	s	SWITCH, THERMAL REED
133	2-280-622-31	o	SUPPORT(M3X12), HEXAGON
134	2-280-622-41	o	SUPPORT(M3), HEXAGON
135	2-832-007-00	s	BUSHING(K), INSULATING
136	2-990-404-01	o	HEAT SINK(PH291-H-9-M)
137	3-673-249-11	o	LEVER, PC BOARD
138	3-703-207-11	s	INSULATOR, TO-220
139	3-731-747-01	s	BUSHING, INSULATING
140	3-731-748-01	s	SHEET, INSULATING
141	3-731-749-01	o	RUBBER, INSULATING
142	3-731-758-01	o	KICKER, HEAT
143	3-734-215-01	o	SUPPORT(M2.6)
144	3-734-247-01	o	PANEL
145	1-629-803-12	o	PRINTED CIRCUIT BOARD, LF-20

SCREW

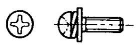
+PSW
Czn-N



7-621-□□□-□□

SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

+PSW
Czn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
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x 25	967-01
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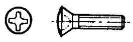
x 35	969-01
x 40	970-01

+RK
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	347-04
x 8	348-04
x 10	349-04
x 12	350-04
x 14	351-04
x 16	352-04
x 20	353-04
4 x 6	360-04
x 8	361-04
x 10	362-04
x 12	363-04
x 14	364-04
x 16	365-04
x 20	366-04
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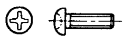
x 10	375-04
x 12	376-04
x 14	377-04
x 16	778-04
x 20	379-04

+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
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x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
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x 16	565-04
x 20	566-04
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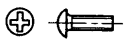
x 14	577-04
x 16	578-04
x 20	579-04

+BVTT
CZn-N



7-685-□□□-□□

SIZE	Parts No.
2 x 3	850-01
x 4	851-01
x 5	852-01
x 6	853-01
x 8	854-01
x 10	855-01
x 12	856-01
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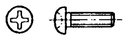
x 5	861-01
x 6	862-01
x 8	863-01
x 10	864-01
x 12	865-01
x 14	866-01
x 16	867-01
x 20	868-01
3 x 5	870-01
x 6	871-01
x 8	872-01
x 10	873-01
x 12	874-01
x 14	875-01
x 16	876-01
x 20	877-01
x 25	878-01
x 30	879-01

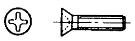
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
x 30	555-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09
5 x 8	574-09
x 10	575-09
x 12	576-09
x 14	577-09
x 16	578-09
x 20	579-09

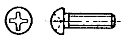
+K
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09
5 x 8	274-09
x 10	275-09
x 12	276-09
x 14	277-09
x 16	278-09
x 20	279-09
x 25	280-09
x 30	281-09
x 35	282-09
x 40	283-09
x 45	284-09
x 50	285-09

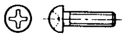
+P
Czn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-15
x 4	255-25
x 5	255-35
x 6	255-45
x 8	255-55
x 10	255-65
x 12	255-75
x 14	255-85
x 16	256-05
x 20	256-25
2.3 x 5	257-35
x 6	257-45
x 8	257-55
x 10	257-65
x 12	257-75
x 14	257-85
x 16	258-05
x 20	258-25
2.6 x 3	259-15
x 4	259-25
x 5	259-35
x 6	259-45
x 8	259-55
x 10	259-65
x 12	259-75
x 14	259-85
x 16	260-05
x 20	260-25

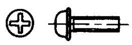
PRECISION +P
Cr-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	–
x 1.8	–
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	–
x 3	552-37
x 3.5	–
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	–
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	–
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	–
x 3.5	–
x 4	556-37
x 4.5	–
x 5	556-57
x 5.5	–
x 6	556-77
x 7	–
x 8	556-97
x 9	–
x 10	557-47

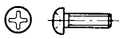
+PWH



7-682-□□□-□□

SIZE	Parts No.
2.6 x 4	
x 5	902-11
x 6	902-21
x 8	902-31
x 10	
x 12	902-51
x 14	
3 x 5	903-01
x 6	903-11
x 8	903-21
x 10	903-31
x 12	903-41
x 14	
4 x 6	904-01
x 8	904-11
x 10	904-21
x 12	904-31
x 14	904-41
x 16	
x 20	

+B
Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

CAPACITOR,CERAMIC

Part No.	SP	Description
1-101-837-00	s	P, CERAMIC 0.5pF +-0.25pF 50V
1-101-586-00	s	P, CERAMIC 0.75pF +-0.25pF 50V
1-102-934-00	s	P, CERAMIC 1.0pF +-0.25pF 50V
1-101-576-00	s	P, CERAMIC 1.5pF +-0.25pF 50V
1-102-935-00	s	P, CERAMIC 2.0pF +-0.25pF 50V
1-161-965-00	s	P, CERAMIC 2.5pF +-0.25pF 50V
1-102-936-00	s	P, CERAMIC 3.0pF +-0.25pF 50V
1-102-937-00	s	P, CERAMIC 4.0pF +-0.25pF 50V
1-102-942-00	s	P, CERAMIC 5.0pF +-0.5pF 50V
1-102-943-00	s	P, CERAMIC 6.0pF +-0.5pF 50V
1-102-944-00	s	P, CERAMIC 7.0pF +-0.5pF 50V
1-102-945-00	s	P, CERAMIC 8.0pF +-0.5pF 50V
1-102-946-00	s	P, CERAMIC 9.0pF +-0.5pF 50V
1-102-947-00	s	P, CERAMIC 10pF 5% 50V
1-102-949-00	s	P, CERAMIC 12pF 5% 50V
1-102-951-00	s	P, CERAMIC 15pF 5% 50V
1-102-953-00	s	P, CERAMIC 18pF 5% 50V
1-102-959-00	s	P, CERAMIC 22pF 5% 50V
1-102-961-00	s	P, CERAMIC 27pF 5% 50V
1-102-963-00	s	P, CERAMIC 33pF 5% 50V
1-102-965-00	s	P, CERAMIC 39pF 5% 50V
1-101-880-00	s	P, CERAMIC 47pF 5% 50V
1-101-884-00	s	P, CERAMIC 56pF 5% 50V
1-101-888-00	s	P, CERAMIC 68pF 5% 50V
1-102-971-00	s	P, CERAMIC 82pF 5% 50V
1-102-973-00	s	P, CERAMIC 100pF 5% 50V
1-102-816-00	s	P, CERAMIC 120pF 5% 50V
1-101-361-00	s	P, CERAMIC 150pF 5% 50V
1-102-976-00	s	P, CERAMIC 180pF 5% 50V
1-102-978-00	s	P, CERAMIC 220pF 5% 50V
1-102-980-00	s	P, CERAMIC 270pF 5% 50V
1-102-820-00	s	P, CERAMIC 330pF 5% 50V
1-102-822-00	s	P, CERAMIC 390pF 5% 50V
1-102-824-00	s	P, CERAMIC 470pF 5% 50V

CAPACITOR, TANTALUM

Part No.	SP	Description
1-131-396-00	s	P, TANTALUM 0.01 20% 35V
1-131-397-00	s	P, TANTALUM 0.015 20% 35V
1-131-398-00	s	P, TANTALUM 0.022 20% 35V
1-131-399-00	s	P, TANTALUM 0.033 20% 35V
1-131-400-00	s	P, TANTALUM 0.047 20% 35V
1-131-401-00	s	P, TANTALUM 0.068 10% 35V
1-131-341-00	s	P, TANTALUM 0.1 10% 35V
1-131-342-00	s	P, TANTALUM 0.15 10% 35V
1-131-343-00	s	P, TANTALUM 0.22 10% 35V
1-131-344-00	s	P, TANTALUM 0.33 10% 35V
1-131-412-00	s	P, TANTALUM 0.47 20% 20V
1-131-345-00	s	P, TANTALUM 0.47 10% 35V
1-131-410-00	s	P, TANTALUM 0.68 20% 25V
1-131-346-00	s	P, TANTALUM 0.68 10% 35V
1-131-413-00	s	P, TANTALUM 1.0 20% 20V
1-131-347-00	s	P, TANTALUM 1.0 10% 35V
1-131-416-00	s	P, TANTALUM 1.5 20% 16V
1-131-348-00	s	P, TANTALUM 1.5 10% 35V
1-131-419-00	s	P, TANTALUM 2.2 20% 10V
1-131-361-00	s	P, TANTALUM 2.2 10% 20V
1-131-349-00	s	P, TANTALUM 2.2 10% 35V
1-131-422-00	s	P, TANTALUM 3.3 20% 6.3V
1-131-368-00	s	P, TANTALUM 3.3 10% 16V
1-131-356-00	s	P, TANTALUM 3.3 10% 25V
1-131-350-00	s	P, TANTALUM 3.3 10% 35V
1-131-425-00	s	P, TANTALUM 4.7 20% 3.15V
1-131-375-00	s	P, TANTALUM 4.7 10% 10V
1-131-363-00	s	P, TANTALUM 4.7 10% 20V
1-131-351-00	s	P, TANTALUM 4.7 10% 35V
1-131-382-00	s	P, TANTALUM 6.8 10% 6.3V
1-131-370-00	s	P, TANTALUM 6.8 10% 16V
1-131-358-00	s	P, TANTALUM 6.8 10% 25V
1-131-352-00	s	P, TANTALUM 6.8 10% 35V
1-131-389-00	s	P, TANTALUM 10 10% 3.15V
1-131-377-00	s	P, TANTALUM 10 10% 10V
1-131-365-00	s	P, TANTALUM 10 10% 20V
1-131-353-00	s	P, TANTALUM 10 10% 35V
1-131-384-00	s	P, TANTALUM 15 10% 6.3V
1-131-372-00	s	P, TANTALUM 15 10% 16V
1-131-360-00	s	P, TANTALUM 15 10% 25V
1-131-391-00	s	P, TANTALUM 22 10% 3.15V
1-131-379-00	s	P, TANTALUM 22 10% 10V
1-131-367-00	s	P, TANTALUM 22 10% 20V
1-131-386-00	s	P, TANTALUM 33 10% 6.3V
1-131-374-00	s	P, TANTALUM 33 10% 16V
1-131-393-00	s	P, TANTALUM 47 10% 3.15V
1-131-381-00	s	P, TANTALUM 47 10% 10V
1-131-388-00	s	P, TANTALUM 68 10% 6.3V
1-131-395-00	s	P, TANTALUM 100 10% 3.15V

CAPACITOR, CHIP TANTALUM

Part No.	SP	Description
1-135-070-00	s	P, CHIP TANTALUM 0.1 10% 35V
1-135-071-21	s	P, CHIP TANTALUM 0.15 10% 35V
1-135-072-21	s	P, CHIP TANTALUM 0.22 10% 35V
1-135-073-00	s	P, CHIP TANTALUM 0.33 10% 35V
1-135-145-11	s	P, CHIP TANTALUM 0.47 20% 35V
1-135-074-21	s	P, CHIP TANTALUM 0.47 10% 35V
1-135-087-21	s	P, CHIP TANTALUM 0.68 10% 20V
1-135-075-21	s	P, CHIP TANTALUM 0.68 10% 35V
1-135-091-00	s	P, CHIP TANTALUM 1.0 10% 16V
1-135-076-21	s	P, CHIP TANTALUM 1.0 10% 35V
1-135-152-21	s	P, CHIP TANTALUM 1.5 10% 35V
1-135-077-21	s	P, CHIP TANTALUM 1.5 10% 35V
1-135-153-21	s	P, CHIP TANTALUM 2.2 10% 25V
1-135-078-21	s	P, CHIP TANTALUM 2.2 10% 35V
1-135-092-21	s	P, CHIP TANTALUM 3.3 10% 16V
1-135-079-21	s	P, CHIP TANTALUM 3.3 10% 35V
1-135-155-21	s	P, CHIP TANTALUM 4.7 10% 16V
1-135-085-21	s	P, CHIP TANTALUM 4.7 10% 25V
1-135-156-21	s	P, CHIP TANTALUM 6.8 10% 10V
1-135-089-21	s	P, CHIP TANTALUM 6.8 10% 20V
1-135-159-21	s	P, CHIP TANTALUM 10 10% 20V
1-135-097-21	s	P, CHIP TANTALUM 15 10% 10V
1-135-161-21	s	P, CHIP TANTALUM 22 10% 10V
1-135-166-21	s	P, CHIP TANTALUM 47 10% 10V

CAPACITOR, CHIP CERAMIC

Part No.	SP	Description
1-163-083-00	s	P, CHIP CERAMIC 1pF +-0.25pF 50V
1-163-085-00	s	P, CHIP CERAMIC 2pF +-0.25pF 50V
1-163-087-00	s	P, CHIP CERAMIC 4pF +-0.25pF 50V
1-163-089-00	s	P, CHIP CERAMIC 6pF +-0.5pF 50V
1-163-091-00	s	P, CHIP CERAMIC 8pF +-0.5pF 50V
1-163-093-00	s	P, CHIP CERAMIC 10pF 5% 50V
1-163-097-00	s	P, CHIP CERAMIC 15pF 5% 50V
1-163-101-00	s	P, CHIP CERAMIC 22pF 5% 50V
1-163-105-00	s	P, CHIP CERAMIC 33pF 5% 50V
1-163-109-00	s	P, CHIP CERAMIC 47pF 5% 50V
1-163-113-00	s	P, CHIP CERAMIC 68pF 5% 50V
1-163-117-00	s	P, CHIP CERAMIC 100pF 5% 50V
1-163-121-00	s	P, CHIP CERAMIC 150pF 5% 50V
1-163-125-00	s	P, CHIP CERAMIC 220pF 5% 50V
1-163-129-00	s	P, CHIP CERAMIC 330pF 5% 50V
1-163-133-00	s	P, CHIP CERAMIC 470pF 5% 50V
1-163-137-00	s	P, CHIP CERAMIC 680pF 5% 50V
1-163-141-00	s	P, CHIP CERAMIC 1000pF 5% 50V
1-163-145-00	s	P, CHIP CERAMIC 1500pF 10% 50V
1-164-161-11	s	P, CHIP CERAMIC 2200pF 10% 100V
1-164-182-11	s	P, CHIP CERAMIC 3300pF 10% 100V
1-163-017-00	s	P, CHIP CERAMIC 4700pF 10% 50V
1-163-019-00	s	P, CHIP CERAMIC 6800pF 10% 50V
1-164-232-11	s	P, CHIP CERAMIC 0.01 20% 100V
1-163-023-00	s	P, CHIP CERAMIC 0.015 10% 50V
1-163-034-00	s	P, CHIP CERAMIC 0.033 50V
1-163-035-00	s	P, CHIP CERAMIC 0.047 50V
1-163-036-00	s	P, CHIP CERAMIC 0.068 50V
1-163-038-00	s	P, CHIP CERAMIC 0.1 50V

RESISTOR, METAL

Part No.	SP	Description
1-214-509-00	s	S, METAL 10 1% 1/8W
1-214-510-00	s	S, METAL 11 1% 1/8W
1-214-511-00	s	S, METAL 12 1% 1/8W
1-214-512-00	s	S, METAL 13 1% 1/8W
1-214-513-00	s	S, METAL 15 1% 1/8W
1-214-514-00	s	S, METAL 16 1% 1/8W
1-214-515-00	s	S, METAL 18 1% 1/8W
1-214-516-00	s	S, METAL 20 1% 1/8W
1-214-517-00	s	S, METAL 22 1% 1/8W
1-214-518-00	s	S, METAL 24 1% 1/8W
1-214-519-00	s	S, METAL 27 1% 1/8W
1-214-520-00	s	S, METAL 30 1% 1/8W
1-214-521-00	s	S, METAL 33 1% 1/8W
1-214-522-00	s	S, METAL 36 1% 1/8W
1-214-523-00	s	S, METAL 39 1% 1/8W
1-214-524-00	s	S, METAL 43 1% 1/8W
1-214-525-00	s	S, METAL 47 1% 1/8W
1-214-526-00	s	S, METAL 51 1% 1/8W
1-214-527-00	s	S, METAL 56 1% 1/8W
1-214-528-00	s	S, METAL 62 1% 1/8W
1-214-529-00	s	S, METAL 68 1% 1/8W
1-214-530-00	s	S, METAL 75 1% 1/8W
1-214-531-00	s	S, METAL 82 1% 1/8W
1-214-532-00	s	S, METAL 91 1% 1/8W
1-214-533-00	s	S, METAL 100 1% 1/8W
1-214-534-00	s	S, METAL 110 1% 1/8W
1-214-535-00	s	S, METAL 120 1% 1/8W
1-214-536-00	s	S, METAL 130 1% 1/8W
1-214-537-00	s	S, METAL 150 1% 1/8W
1-214-538-00	s	S, METAL 160 1% 1/8W
1-214-539-00	s	S, METAL 180 1% 1/8W
1-214-540-00	s	S, METAL 200 1% 1/8W
1-214-541-00	s	S, METAL 220 1% 1/8W
1-214-542-00	s	S, METAL 240 1% 1/8W
1-214-543-00	s	S, METAL 270 1% 1/8W
1-214-544-00	s	S, METAL 300 1% 1/8W
1-214-545-00	s	S, METAL 330 1% 1/8W
1-214-546-00	s	S, METAL 360 1% 1/8W
1-214-547-00	s	S, METAL 390 1% 1/8W
1-214-548-00	s	S, METAL 430 1% 1/8W
1-214-549-00	s	S, METAL 470 1% 1/8W
1-214-550-00	s	S, METAL 510 1% 1/8W
1-214-551-00	s	S, METAL 560 1% 1/8W
1-214-552-00	s	S, METAL 620 1% 1/8W
1-214-553-00	s	S, METAL 680 1% 1/8W
1-214-554-00	s	S, METAL 750 1% 1/8W
1-214-555-00	s	S, METAL 820 1% 1/8W
1-214-556-00	s	S, METAL 910 1% 1/8W
1-214-557-00	s	S, METAL 1.0k 1% 1/8W
1-214-558-00	s	S, METAL 1.1k 1% 1/8W
1-214-559-00	s	S, METAL 1.2k 1% 1/8W
1-214-560-00	s	S, METAL 1.3k 1% 1/8W
1-214-561-00	s	S, METAL 1.5k 1% 1/8W
1-214-562-00	s	S, METAL 1.6k 1% 1/8W
1-214-563-00	s	S, METAL 1.8k 1% 1/8W

RESISTOR, METAL

Part No.	SP	Description
1-214-564-00	s	S, METAL 2.0k 1% 1/8W
1-214-565-00	s	S, METAL 2.2k 1% 1/8W
1-214-566-00	s	S, METAL 2.4k 1% 1/8W
1-214-567-00	s	S, METAL 2.7k 1% 1/8W
1-214-568-00	s	S, METAL 3.0k 1% 1/8W
1-214-569-00	s	S, METAL 3.3k 1% 1/8W
1-214-570-00	s	S, METAL 3.6k 1% 1/8W
1-214-571-00	s	S, METAL 3.9k 1% 1/8W
1-214-572-00	s	S, METAL 4.3k 1% 1/8W
1-214-573-00	s	S, METAL 4.7k 1% 1/8W
1-214-574-00	s	S, METAL 5.1k 1% 1/8W
1-214-575-00	s	S, METAL 5.6k 1% 1/8W
1-214-576-00	s	S, METAL 6.2k 1% 1/8W
1-214-577-00	s	S, METAL 6.8k 1% 1/8W
1-214-578-00	s	S, METAL 7.5k 1% 1/8W
1-214-579-00	s	S, METAL 8.2k 1% 1/8W
1-214-580-00	s	S, METAL 9.1k 1% 1/8W
1-214-581-00	s	S, METAL 10k 1% 1/8W
1-214-582-00	s	S, METAL 11k 1% 1/8W
1-214-583-00	s	S, METAL 12k 1% 1/8W
1-214-584-00	s	S, METAL 13k 1% 1/8W
1-214-585-00	s	S, METAL 15k 1% 1/8W
1-214-586-00	s	S, METAL 16k 1% 1/8W
1-214-587-00	s	S, METAL 18k 1% 1/8W
1-214-588-00	s	S, METAL 20k 1% 1/8W
1-214-589-00	s	S, METAL 22k 1% 1/8W
1-214-590-00	s	S, METAL 24k 1% 1/8W
1-214-591-00	s	S, METAL 27k 1% 1/8W
1-214-592-00	s	S, METAL 30k 1% 1/8W
1-214-593-00	s	S, METAL 33k 1% 1/8W
1-215-819-11	s	S, METAL 36k 1% 1/8W
1-215-820-11	s	S, METAL 39k 1% 1/8W
1-215-821-11	s	S, METAL 43k 1% 1/8W
1-215-822-11	s	S, METAL 47k 1% 1/8W
1-215-823-11	s	S, METAL 51k 1% 1/8W
1-215-824-11	s	S, METAL 56k 1% 1/8W
1-215-825-11	s	S, METAL 62k 1% 1/8W
1-215-826-11	s	S, METAL 68k 1% 1/8W
1-215-827-11	s	S, METAL 75k 1% 1/8W
1-215-828-11	s	S, METAL 82k 1% 1/8W
1-215-829-11	s	S, METAL 91k 1% 1/8W
1-215-830-11	s	S, METAL 100k 1% 1/8W

RESISTOR, CHIP

Part No.	SP	Description
1-216-295-00	s	S, CHIP 0 5% 1/10W
1-216-298-00	s	S, CHIP 2.2 5% 1/10W
1-216-302-00	s	S, CHIP 2.7 5% 1/10W
1-216-304-00	s	S, CHIP 3.3 5% 1/10W
1-216-306-00	s	S, CHIP 3.9 5% 1/10W
1-216-308-00	s	S, CHIP 4.7 5% 1/10W
1-216-309-00	s	S, CHIP 5.6 5% 1/10W
1-216-311-00	s	S, CHIP 6.8 5% 1/10W
1-216-313-00	s	S, CHIP 8.2 5% 1/10W
1-216-001-00	s	S, CHIP 10 5% 1/10W
1-216-003-00	s	S, CHIP 12 5% 1/10W
1-216-005-00	s	S, CHIP 15 5% 1/10W
1-216-007-00	s	S, CHIP 18 5% 1/10W
1-216-009-00	s	S, CHIP 22 5% 1/10W
1-216-011-00	s	S, CHIP 27 5% 1/10W
1-216-013-00	s	S, CHIP 33 5% 1/10W
1-216-015-00	s	S, CHIP 39 5% 1/10W
1-216-017-00	s	S, CHIP 47 5% 1/10W
1-216-019-00	s	S, CHIP 56 5% 1/10W
1-216-021-00	s	S, CHIP 68 5% 1/10W
1-216-023-00	s	S, CHIP 82 5% 1/10W
1-216-025-00	s	S, CHIP 100 5% 1/10W
1-216-027-00	s	S, CHIP 120 5% 1/10W
1-216-029-00	s	S, CHIP 150 5% 1/10W
1-216-031-00	s	S, CHIP 180 5% 1/10W
1-216-033-00	s	S, CHIP 220 5% 1/10W
1-216-035-00	s	S, CHIP 270 5% 1/10W
1-216-037-00	s	S, CHIP 330 5% 1/10W
1-216-039-00	s	S, CHIP 390 5% 1/10W
1-216-041-00	s	S, CHIP 470 5% 1/10W
1-216-043-00	s	S, CHIP 560 5% 1/10W
1-216-045-00	s	S, CHIP 680 5% 1/10W
1-216-047-00	s	S, CHIP 820 5% 1/10W
1-216-049-00	s	S, CHIP 1k 5% 1/10W
1-216-051-00	s	S, CHIP 1.2k 5% 1/10W
1-216-053-00	s	S, CHIP 1.5k 5% 1/10W
1-216-055-00	s	S, CHIP 1.8k 5% 1/10W
1-216-057-00	s	S, CHIP 2.2k 5% 1/10W
1-216-059-00	s	S, CHIP 2.7k 5% 1/10W
1-216-061-00	s	S, CHIP 3.3k 5% 1/10W
1-216-063-00	s	S, CHIP 3.9k 5% 1/10W
1-216-065-00	s	S, CHIP 4.7k 5% 1/10W
1-216-067-00	s	S, CHIP 5.6k 5% 1/10W
1-216-069-00	s	S, CHIP 6.8k 5% 1/10W
1-216-071-00	s	S, CHIP 8.2k 5% 1/10W
1-216-073-00	s	S, CHIP 10k 5% 1/10W
1-216-075-00	s	S, CHIP 12k 5% 1/10W
1-216-077-00	s	S, CHIP 15k 5% 1/10W
1-216-079-00	s	S, CHIP 18k 5% 1/10W
1-216-081-00	s	S, CHIP 22k 5% 1/10W
1-216-083-00	s	S, CHIP 27k 5% 1/10W
1-216-085-00	s	S, CHIP 33k 5% 1/10W
1-216-087-00	s	S, CHIP 39k 5% 1/10W
1-216-089-00	s	S, CHIP 47k 5% 1/10W
1-216-091-00	s	S, CHIP 56k 5% 1/10W

RESISTOR, CHIP

Part No.	SP	Description
1-216-093-00	s	S, CHIP 68k 5% 1/10W
1-216-095-00	s	S, CHIP 82k 5% 1/10W
1-216-097-00	s	S, CHIP 100k 5% 1/10W
1-216-099-00	s	S, CHIP 120k 5% 1/10W
1-216-101-00	s	S, CHIP 150k 5% 1/10W
1-216-103-00	s	S, CHIP 180k 5% 1/10W
1-216-105-00	s	S, CHIP 220k 5% 1/10W
1-216-107-00	s	S, CHIP 270k 5% 1/10W
1-216-109-00	s	S, CHIP 330k 5% 1/10W
1-216-111-00	s	S, CHIP 390k 5% 1/10W
1-216-113-00	s	S, CHIP 470k 5% 1/10W
1-216-115-00	s	S, CHIP 560k 5% 1/10W
1-216-117-00	s	S, CHIP 680k 5% 1/10W
1-216-119-00	s	S, CHIP 820k 5% 1/10W
1-216-121-00	s	S, CHIP 1.0M 5% 1/10W
1-216-123-00	s	S, CHIP 1.2M 5% 1/10W
1-216-125-00	s	S, CHIP 1.5M 5% 1/10W
1-216-127-00	s	S, CHIP 1.8M 5% 1/10W
1-216-129-00	s	S, CHIP 2.2M 5% 1/10W
1-216-131-00	s	S, CHIP 2.7M 5% 1/10W
1-216-133-00	s	S, CHIP 3.3M 5% 1/10W

INDUCTOR, MICRO

Part No.	SP	Description
1-408-876-00	s	DUCTOR, MICRO 0.18 5%
1-408-877-00	s	DUCTOR, MICRO 0.22 5%
1-408-878-00	s	DUCTOR, MICRO 0.33 5%
1-408-879-21	s	DUCTOR, MICRO 0.47 5%
1-408-931-00	s	DUCTOR, MICRO 0.56 5%
1-408-880-00	s	DUCTOR, MICRO 0.68 5%
1-408-763-00	s	DUCTOR, MICRO 0.82 5%
1-408-397-00	s	DUCTOR, MICRO 1.0 5%
1-408-398-00	s	DUCTOR, MICRO 1.2 5%
1-408-399-00	s	DUCTOR, MICRO 1.5 5%
1-408-400-00	s	DUCTOR, MICRO 1.8 5%
1-408-401-00	s	DUCTOR, MICRO 2.2 5%
1-408-402-00	s	DUCTOR, MICRO 2.7 5%
1-408-403-00	s	DUCTOR, MICRO 3.3 5%
1-408-404-00	s	DUCTOR, MICRO 3.9 5%
1-408-405-00	s	DUCTOR, MICRO 4.7 5%
1-408-406-00	s	DUCTOR, MICRO 5.6 5%
1-408-407-00	s	DUCTOR, MICRO 6.8 5%
1-408-408-00	s	DUCTOR, MICRO 8.2 5%
1-408-409-00	s	DUCTOR, MICRO 10 5%
1-408-410-00	s	DUCTOR, MICRO 12 5%
1-408-411-00	s	DUCTOR, MICRO 15 5%
1-408-412-00	s	DUCTOR, MICRO 18 5%
1-408-413-00	s	DUCTOR, MICRO 22 5%
1-408-414-00	s	DUCTOR, MICRO 27 5%
1-408-415-00	s	DUCTOR, MICRO 33 5%
1-408-416-00	s	DUCTOR, MICRO 39 5%
1-408-417-21	s	DUCTOR, MICRO 47 5%
1-408-418-00	s	DUCTOR, MICRO 56 5%
1-408-419-00	s	DUCTOR, MICRO 68 5%
1-408-420-00	s	DUCTOR, MICRO 82 5%
1-408-421-00	s	DUCTOR, MICRO 100 5%
1-408-422-00	s	DUCTOR, MICRO 120 5%
1-408-423-00	s	DUCTOR, MICRO 150 5%
1-408-424-00	s	DUCTOR, MICRO 180 5%
1-408-425-00	s	DUCTOR, MICRO 220 5%
1-408-426-00	s	DUCTOR, MICRO 270 5%
1-408-427-00	s	DUCTOR, MICRO 330 5%
1-408-428-00	s	DUCTOR, MICRO 390 5%
1-408-429-00	s	DUCTOR, MICRO 470 5%

AD-39 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-806-A	o	MOUNTED CIRCUIT BOARD, AD-39
1pc	3-673-249-11	o	LEVER, PC BOARD
C2	1-126-176-11	s	ELECT 220MF 20% 10V
C3	1-126-176-11	s	ELECT 220MF 20% 10V
C6	1-124-120-11	s	ELECT 220MF 20% 25V
C8	1-124-120-11	s	ELECT 220MF 20% 25V
C10	1-126-176-11	s	ELECT 220MF 20% 10V
C12	1-126-176-11	s	ELECT 220MF 20% 10V
C14	1-126-176-11	s	ELECT 220MF 20% 10V
C403	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C404	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C407	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C408	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C412	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C432	1-124-584-00	s	ELECT 100MF 20% 10V
C433	1-124-589-11	s	ELECT 47MF 20% 10V
C434	1-124-589-11	s	ELECT 47MF 20% 10V
C435	1-124-589-11	s	ELECT 47MF 20% 10V
C444	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CP1	1-231-456-00	s	BLOCK, CR
D401	8-719-105-72	s	DIODE RD4.7M-B1
D402	8-719-948-47	s	DIODE HSM88AS
D601	8-719-948-47	s	DIODE HSM88AS
D602	8-719-948-47	s	DIODE HSM88AS
DL1	1-415-393-11	s	DELAY LINE 10nS
FB101	1-535-178-00	s	RES, FERRITE
FB201	1-535-178-00	s	RES, FERRITE
FB301	1-535-178-00	s	RES, FERRITE
FL101	1-236-234-12	s	FILTER, LOW PASS
FL201	1-236-234-12	s	FILTER, LOW PASS
FL301	1-236-234-12	s	FILTER, LOW PASS
IC1	8-759-002-71	s	IC MC10H115L
IC2	8-759-002-62	s	IC MC10H101L
IC3	8-759-002-62	s	IC MC10H101L
IC4	8-759-001-16	s	IC MC10116L
IC5	8-759-300-25	s	IC HD10125
IC6	8-759-933-65	s	IC SN74LS244NS
IC7	8-759-926-29	s	IC SN74HC175NS
IC8	8-759-926-67	s	IC SN74HC374NS
IC9	8-759-301-24	s	IC HD10124
IC101	1-808-668-11	s	IC HDVA-1
IC102	1-808-668-11	s	IC HDVA-1
IC103	1-808-668-11	s	IC HDVA-1
IC104	8-759-973-70	s	IC OP-07CPS
IC105	8-752-011-60	s	IC CX20116
IC106	8-759-301-01	s	IC HD10101
IC107	8-759-301-01	s	IC HD10101
IC108	8-759-002-80	s	IC MC10H131L
IC109	8-759-142-20	s	IC UPG4062G2
IC110	8-759-929-26	s	IC TL431CPS
IC201	1-808-668-11	s	IC HDVA-1
IC202	1-808-668-11	s	IC HDVA-1
IC203	1-808-668-11	s	IC HDVA-1
IC204	8-759-973-70	s	IC OP-07CPS

(AD-39 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC205	8-752-011-60	s	IC CX20116
IC206	8-759-301-01	s	IC HD10101
IC207	8-759-301-01	s	IC HD10101
IC208	8-759-002-80	s	IC MC10H131L
IC301	1-808-668-11	s	IC HDVA-1
IC302	1-808-668-11	s	IC HDVA-1
IC303	1-808-668-11	s	IC HDVA-1
IC304	8-759-973-70	s	IC OP-07CPS
IC305	8-752-011-60	s	IC CX20116
IC306	8-759-301-01	s	IC HD10101
IC307	8-759-301-01	s	IC HD10101
IC308	8-759-002-80	s	IC MC10H131L
IC401	1-808-668-11	s	IC HDVA-1
IC402	1-808-668-11	s	IC HDVA-1
IC403	8-759-973-70	s	IC OP-07CPS
IC404	1-808-668-11	s	IC HDVA-1
IC405	8-759-973-70	s	IC OP-07CPS
IC406	1-808-668-11	s	IC HDVA-1
IC407	1-808-668-11	s	IC HDVA-1
IC408	8-759-973-70	s	IC OP-07CPS
IC409	8-759-973-70	s	IC OP-07CPS
IC410	8-759-973-70	s	IC OP-07CPS
IC411	8-759-973-70	s	IC OP-07CPS
IC412	8-759-100-97	s	IC UPC339G2
IC413	8-759-009-05	s	IC MC14051BF
IC414	8-759-009-05	s	IC MC14051BF
IC415	8-759-929-26	s	IC TL431CPS
IC416	8-759-973-70	s	IC OP-07CPS
IC417	8-759-973-70	s	IC OP-07CPS
IC418	8-759-009-07	s	IC MC14053BF
IC419	8-759-014-29	s	IC MC34184M
IC420	8-759-929-26	s	IC TL431CPS
IC421	8-759-973-70	s	IC OP-07CPS
IC422	8-759-973-60	s	IC AD7576JN
IC423	8-759-206-28	s	IC TC74HC123F
IC424	8-759-926-21	s	IC SN74HC161NS
IC425	8-759-926-12	s	IC SN74HC139NS
IC426	8-759-926-14	s	IC SN74HC148NS
IC427	8-759-204-90	s	IC TC40H374F
IC428	8-759-204-90	s	IC TC40H374F
IC429	8-759-204-90	s	IC TC40H374F
IC430	8-759-204-90	s	IC TC40H374F
IC431	8-759-204-90	s	IC TC40H374F
IC432	8-759-204-90	s	IC TC40H374F
IC433	8-759-204-60	s	IC TC40H139F
IC434	8-759-201-63	s	IC TC40H032F
IC435	8-759-925-85	s	IC SN74HC32NS
IC436	8-759-925-74	s	IC SN74HC04NS
IC437	8-759-933-65	s	IC SN74LS244NS
IC438	8-759-204-82	s	IC TC40H244F
IC439	8-759-204-90	s	IC TC40H374F
IC440	8-759-142-20	s	IC UPG4062G2
IC602	8-759-973-70	s	IC OP-07CPS
IC603	8-759-002-80	s	IC MC10H131L
IC610	8-759-206-28	s	IC TC74HC123F
Q101	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q102	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q103	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q104	8-729-200-86	s	TRANSISTOR 2SC2714-O

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AD-39 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q105	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q106	8-729-173-38	s	TRANSISTOR 2SA733-K
Q107	8-769-401-68	s	TRANSISTOR 3SK163-2
Q201	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q202	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q203	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q204	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q205	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q207	8-769-401-68	s	TRANSISTOR 3SK163-2
Q301	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q302	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q303	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q304	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q305	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q307	8-769-401-68	s	TRANSISTOR 3SK163-2
Q401	8-769-401-68	s	TRANSISTOR 3SK163-2
Q402	8-769-401-68	s	TRANSISTOR 3SK163-2
Q403	8-769-401-68	s	TRANSISTOR 3SK163-2
Q404	8-769-401-68	s	TRANSISTOR 3SK163-2
Q405	8-769-401-68	s	TRANSISTOR 3SK163-2
Q406	8-769-401-68	s	TRANSISTOR 3SK163-2
Q407	8-769-401-68	s	TRANSISTOR 3SK163-2
Q408	8-769-401-68	s	TRANSISTOR 3SK163-2
Q409	8-769-401-68	s	TRANSISTOR 3SK163-2
Q410	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q411	8-769-401-68	s	TRANSISTOR 3SK163-2
Q412	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q413	8-729-122-63	s	TRANSISTOR 2SA1226
Q414	8-729-122-63	s	TRANSISTOR 2SA1226
Q415	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q416	8-729-122-63	s	TRANSISTOR 2SA1226
Q417	8-769-401-68	s	TRANSISTOR 3SK163-2
Q418	8-729-200-86	s	TRANSISTOR 2SC2714-0
R110	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R114	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R117	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R119	1-216-623-11	s	METAL CHIP 68 0.50% 1/10W
R120	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R121	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R125	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R126	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R127	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R132	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R137	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R138	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R143	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R144	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R145	1-216-044-00	s	METAL CHIP 620 5% 1/10W
R210	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R214	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R217	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R219	1-216-623-11	s	METAL CHIP 68 0.50% 1/10W
R220	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R221	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R225	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R226	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R227	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R232	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W

(AD-39 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R237	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R238	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R310	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R314	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R317	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R319	1-216-623-11	s	METAL CHIP 68 0.50% 1/10W
R320	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R321	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R325	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R326	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R327	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R332	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R337	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R338	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R401	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R402	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R405	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R406	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R407	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R408	1-216-639-11	s	METAL CHIP 330 0.50% 1/10W
R411	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R412	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R413	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R414	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R422	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R423	1-216-625-11	s	METAL CHIP 82 0.50% 1/10W
R428	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R429	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
R432	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R433	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R434	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R439	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R440	1-216-625-11	s	METAL CHIP 82 0.50% 1/10W
R446	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R447	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R450	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R451	1-216-639-11	s	METAL CHIP 330 0.50% 1/10W
R452	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R453	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R454	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R457	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R458	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R459	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R466	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R467	1-216-625-11	s	METAL CHIP 82 0.50% 1/10W
R472	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R473	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R474	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R475	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R485	1-247-903-00	s	CARBON 1M 5% 1/4W
R486	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R487	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R488	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R490	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R491	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R493	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R496	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R498	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R500	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AD-39 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R501	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R503	1-247-903-00	s	CARBON 1M 5% 1/4W
R510	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R511	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R513	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R514	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R515	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R516	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R517	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R518	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R519	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R520	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R523	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R524	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R525	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R526	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R527	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R528	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R529	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R530	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R535	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R536	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R539	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R540	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R604	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R605	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R606	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R607	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
RB1	1-231-533-00	s	RESISTOR BLOCK 10Kx4
RB101	1-231-485-11	s	RESISTOR BLOCK 100x4
RB102	1-231-485-11	s	RESISTOR BLOCK 100x4
RB103	1-235-972-11	s	BLOCK 100
RB104	1-235-972-11	s	BLOCK 100
RB201	1-231-485-11	s	RESISTOR BLOCK 100x4
RB202	1-231-485-11	s	RESISTOR BLOCK 100x4
RB203	1-235-972-11	s	BLOCK 100
RB204	1-235-972-11	s	BLOCK 100
RB301	1-231-485-11	s	RESISTOR BLOCK 100x4
RB302	1-231-485-11	s	RESISTOR BLOCK 100x4
RB303	1-235-972-11	s	BLOCK 100
RB304	1-235-972-11	s	BLOCK 100
RB401	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB402	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RV101	1-228-454-00	s	RES, ADJ, METAL 200
RV102	1-228-455-00	s	RES, ADJ, METAL 500
RV103	1-228-456-00	s	RES, ADJ, METAL 1K
RV201	1-228-454-00	s	RES, ADJ, METAL 200
RV202	1-228-455-00	s	RES, ADJ, METAL 500
RV301	1-228-454-00	s	RES, ADJ, METAL 200
RV302	1-228-455-00	s	RES, ADJ, METAL 500
RV401	1-228-455-00	s	RES, ADJ, METAL 500
RV402	1-228-456-00	s	RES, ADJ, METAL 1K
RV403	1-228-455-00	s	RES, ADJ, METAL 500
RV404	1-228-456-00	s	RES, ADJ, METAL 1K
RV406	1-228-455-00	s	RES, ADJ, METAL 500

CN-272 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-627-247-11	o	PRINTED CIRCUIT BOARD, CN-272
4pcs	2-280-622-31	o	SUPPORT (M3X12), HEXAGON
1pc	3-731-763-01	o	PANEL, CONNECTOR
C1	1-136-205-11	s	FILM 0.022MF 10% 630V
C2	1-136-205-11	s	FILM 0.022MF 10% 630V
C3	1-136-205-11	s	FILM 0.022MF 10% 630V
C4	1-136-205-11	s	FILM 0.022MF 10% 630V
C5	1-136-205-11	s	FILM 0.022MF 10% 630V
C6	1-136-205-11	s	FILM 0.022MF 10% 630V
C7	1-136-205-11	s	FILM 0.022MF 10% 630V
C8	1-136-205-11	s	FILM 0.022MF 10% 630V
C9	1-136-205-11	s	FILM 0.022MF 10% 630V
C10	1-136-205-11	s	FILM 0.022MF 10% 630V
C11	1-136-205-11	s	FILM 0.022MF 10% 630V
C12	1-136-205-11	s	FILM 0.022MF 10% 630V
C13	1-136-205-11	s	FILM 0.022MF 10% 630V
C14	1-136-205-11	s	FILM 0.022MF 10% 630V
C15	1-136-205-11	s	FILM 0.022MF 10% 630V
C16	1-136-205-11	s	FILM 0.022MF 10% 630V
C17	1-136-205-11	s	FILM 0.022MF 10% 630V
C18	1-136-205-11	s	FILM 0.022MF 10% 630V
C19	1-136-205-11	s	FILM 0.022MF 10% 630V
C20	1-136-205-11	s	FILM 0.022MF 10% 630V
C21	1-136-205-11	s	FILM 0.022MF 10% 630V
C22	1-136-205-11	s	FILM 0.022MF 10% 630V
C23	1-136-205-11	s	FILM 0.022MF 10% 630V
C24	1-136-205-11	s	FILM 0.022MF 10% 630V
C25	1-136-205-11	s	FILM 0.022MF 10% 630V
C26	1-136-205-11	s	FILM 0.022MF 10% 630V
C27	1-136-205-11	s	FILM 0.022MF 10% 630V
C28	1-136-205-11	s	FILM 0.022MF 10% 630V
C29	1-136-205-11	s	FILM 0.022MF 10% 630V
C30	1-136-205-11	s	FILM 0.022MF 10% 630V
C31	1-136-205-11	s	FILM 0.022MF 10% 630V
CN1	1-565-643-11	s	CONNECTOR, BNC
CN2	1-565-643-11	s	CONNECTOR, BNC
CN3	1-565-643-11	s	CONNECTOR, BNC
CN4	1-565-643-11	s	CONNECTOR, BNC
CN5	1-565-643-11	s	CONNECTOR, BNC
CN6	1-565-643-11	s	CONNECTOR, BNC
CN7	1-565-643-11	s	CONNECTOR, BNC
CN8	1-565-643-11	s	CONNECTOR, BNC
CN9	1-565-643-11	s	CONNECTOR, BNC
CN10	1-565-643-11	s	CONNECTOR, BNC
CN11	1-565-643-11	s	CONNECTOR, BNC
CN12	1-565-643-11	s	CONNECTOR, BNC
CN13	1-565-643-11	s	CONNECTOR, BNC
CN14	1-565-643-11	s	CONNECTOR, BNC
CN15	1-565-643-11	s	CONNECTOR, BNC
CN16	1-565-643-11	s	CONNECTOR, BNC
CN17	1-565-643-11	s	CONNECTOR, BNC
CN18	1-565-643-11	s	CONNECTOR, BNC
CN19	1-565-643-11	s	CONNECTOR, BNC
CN20	1-565-643-11	s	CONNECTOR, BNC
CN21	1-565-643-11	s	CONNECTOR, BNC
CN22	1-565-643-11	s	CONNECTOR, BNC
CN23	1-565-643-11	s	CONNECTOR, BNC
CN24	1-565-643-11	s	CONNECTOR, BNC

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(CN-272 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
CN25	1-565-643-11	s	CONNECTOR, BNC
CN26	1-565-643-11	s	CONNECTOR, BNC
CN27	1-565-643-11	s	CONNECTOR, BNC
CN28	1-565-643-11	s	CONNECTOR, BNC
CN29	1-565-643-11	s	CONNECTOR, BNC
CN30	1-565-643-11	s	CONNECTOR, BNC
CN31	1-565-643-11	s	CONNECTOR, BNC
CN43	1-564-862-11	o	CONNECTOR 8P
CN44	1-564-862-11	o	CONNECTOR 8P
CN45	1-564-862-11	o	CONNECTOR 8P
CN46	1-564-862-11	o	CONNECTOR 8P
CN47	1-564-862-11	o	CONNECTOR 8P
CN48	1-564-862-11	o	CONNECTOR 8P
R1	1-214-105-00	s	METAL 75 1% 1/4W
R2	1-214-105-00	s	METAL 75 1% 1/4W
R3	1-214-105-00	s	METAL 75 1% 1/4W
R4	1-214-105-00	s	METAL 75 1% 1/4W
R5	1-214-105-00	s	METAL 75 1% 1/4W
R6	1-214-105-00	s	METAL 75 1% 1/4W
R7	1-214-105-00	s	METAL 75 1% 1/4W
R8	1-214-105-00	s	METAL 75 1% 1/4W
R9	1-214-105-00	s	METAL 75 1% 1/4W
R10	1-214-105-00	s	METAL 75 1% 1/4W
R11	1-214-105-00	s	METAL 75 1% 1/4W
R12	1-214-105-00	s	METAL 75 1% 1/4W
R13	1-214-105-00	s	METAL 75 1% 1/4W
R14	1-214-105-00	s	METAL 75 1% 1/4W
R15	1-214-105-00	s	METAL 75 1% 1/4W
R16	1-214-105-00	s	METAL 75 1% 1/4W
R17	1-214-105-00	s	METAL 75 1% 1/4W
R18	1-214-105-00	s	METAL 75 1% 1/4W
R19	1-214-105-00	s	METAL 75 1% 1/4W
R20	1-214-105-00	s	METAL 75 1% 1/4W
R21	1-214-105-00	s	METAL 75 1% 1/4W
R22	1-214-105-00	s	METAL 75 1% 1/4W
R23	1-214-105-00	s	METAL 75 1% 1/4W
R24	1-214-105-00	s	METAL 75 1% 1/4W
R25	1-214-105-00	s	METAL 75 1% 1/4W
R26	1-214-105-00	s	METAL 75 1% 1/4W
R27	1-214-105-00	s	METAL 75 1% 1/4W
S1	1-570-848-11	s	SWITCH, SLIDE
S2	1-570-848-11	s	SWITCH, SLIDE
S3	1-570-848-11	s	SWITCH, SLIDE
VDR1	1-806-500-11	s	ERZ-C05DK390
VDR2	1-806-500-11	s	ERZ-C05DK390
VDR3	1-806-500-11	s	ERZ-C05DK390
VDR4	1-806-500-11	s	ERZ-C05DK390
VDR5	1-806-500-11	s	ERZ-C05DK390
VDR6	1-806-500-11	s	ERZ-C05DK390
VDR7	1-806-500-11	s	ERZ-C05DK390
VDR8	1-806-500-11	s	ERZ-C05DK390
VDR9	1-806-500-11	s	ERZ-C05DK390
VDR10	1-806-500-11	s	ERZ-C05DK390
VDR11	1-806-500-11	s	ERZ-C05DK390
VDR12	1-806-500-11	s	ERZ-C05DK390
VDR13	1-806-500-11	s	ERZ-C05DK390
VDR14	1-806-500-11	s	ERZ-C05DK390
VDR15	1-806-500-11	s	ERZ-C05DK390
VDR16	1-806-500-11	s	ERZ-C05DK390
VDR17	1-806-500-11	s	ERZ-C05DK390
VDR18	1-806-500-11	s	ERZ-C05DK390
VDR19	1-806-500-11	s	ERZ-C05DK390
VDR20	1-806-500-11	s	ERZ-C05DK390
VDR21	1-806-500-11	s	ERZ-C05DK390
VDR22	1-806-500-11	s	ERZ-C05DK390
VDR23	1-806-500-11	s	ERZ-C05DK390
VDR24	1-806-500-11	s	ERZ-C05DK390
VDR25	1-806-500-11	s	ERZ-C05DK390
VDR26	1-806-500-11	s	ERZ-C05DK390
VDR27	1-806-500-11	s	ERZ-C05DK390
VDR28	1-806-500-11	s	ERZ-C05DK390
VDR29	1-806-500-11	s	ERZ-C05DK390
VDR30	1-806-500-11	s	ERZ-C05DK390
VDR31	1-806-500-11	s	ERZ-C05DK390

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

DA-29 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-809-A	o	MOUNTED CIRCUIT BOARD, DA-29
1pc	3-673-249-11	o	LEVER, PC BOARD
C36	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C37	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C136	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C137	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C236	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C237	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C401	1-126-176-11	s	ELECT 220MF 20% 10V
C403	1-126-176-11	s	ELECT 220MF 20% 10V
C405	1-126-176-11	s	ELECT 220MF 20% 10V
C407	1-126-176-11	s	ELECT 220MF 20% 10V
C409	1-126-176-11	s	ELECT 220MF 20% 10V
CN301	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CP1	1-231-456-00	s	BLOCK, CR
CP2	1-231-456-00	s	BLOCK, CR
CP3	1-231-456-00	s	BLOCK, CR
CP4	1-231-456-00	s	BLOCK, CR
CP5	1-231-456-00	s	BLOCK, CR
CP101	1-231-456-00	s	BLOCK, CR
CP102	1-231-456-00	s	BLOCK, CR
CP103	1-231-456-00	s	BLOCK, CR
CP104	1-231-456-00	s	BLOCK, CR
CP105	1-231-456-00	s	BLOCK, CR
CP201	1-231-456-00	s	BLOCK, CR
CP202	1-231-456-00	s	BLOCK, CR
CP203	1-231-456-00	s	BLOCK, CR
CP204	1-231-456-00	s	BLOCK, CR
CP205	1-231-456-00	s	BLOCK, CR
CP401	1-231-456-00	s	BLOCK, CR
DL1	1-415-393-11	s	DELAY LINE 10nS
DL101	1-415-393-11	s	DELAY LINE 10nS
DL201	1-415-393-11	s	DELAY LINE 10nS
FL1	1-236-234-12	s	FILTER, LOW PASS
FL101	1-236-234-12	s	FILTER, LOW PASS
FL201	1-236-234-12	s	FILTER, LOW PASS
IC1	8-759-001-15	s	IC MC10115L
IC2	8-759-001-15	s	IC MC10115L
IC3	8-759-001-15	s	IC MC10115L
IC4	8-759-002-99	s	IC MC10H176L
IC5	8-759-002-99	s	IC MC10H176L
IC6	8-752-020-60	s	IC CX20201
IC7	8-759-001-16	s	IC MC10116L
IC8	8-759-929-26	s	IC TL431CPS
IC9	1-808-668-11	s	IC HDVA-1
IC10	1-808-668-11	s	IC HDVA-1
IC50	8-759-142-20	s	IC UPG4062G2
IC101	8-759-001-15	s	IC MC10115L
IC102	8-759-001-15	s	IC MC10115L
IC103	8-759-001-15	s	IC MC10115L
IC104	8-759-002-99	s	IC MC10H176L
IC105	8-759-002-99	s	IC MC10H176L
IC106	8-752-020-60	s	IC CX20201
IC107	8-759-001-16	s	IC MC10116L
IC108	8-759-929-26	s	IC TL431CPS
IC109	1-808-668-11	s	IC HDVA-1

(DA-29 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC110	1-808-668-11	s	IC HDVA-1
IC150	8-759-142-20	s	IC UPG4062G2
IC201	8-759-001-15	s	IC MC10115L
IC202	8-759-001-15	s	IC MC10115L
IC203	8-759-001-15	s	IC MC10115L
IC204	8-759-002-99	s	IC MC10H176L
IC205	8-759-002-99	s	IC MC10H176L
IC206	8-752-020-60	s	IC CX20201
IC207	8-759-001-16	s	IC MC10116L
IC208	8-759-929-26	s	IC TL431CPS
IC209	1-808-668-11	s	IC HDVA-1
IC210	1-808-668-11	s	IC HDVA-1
IC250	8-759-142-20	s	IC UPG4062G2
IC401	8-759-002-72	s	IC MC10H116L
IC402	8-759-002-72	s	IC MC10H116L
IC403	8-759-300-25	s	IC HD10125
IC404	8-759-301-24	s	IC HD10124
IC405	8-759-916-71	s	IC SN74HC244N
IC406	8-759-916-96	s	IC SN74HC374N
IC407	8-759-916-96	s	IC SN74HC374N
Q1	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q2	8-729-122-63	s	TRANSISTOR 2SA1226
Q3	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q4	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q7	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q8	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q9	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q10	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q50	8-769-401-68	s	TRANSISTOR 3SK163-2
Q51	8-729-122-63	s	TRANSISTOR 2SA1226
Q101	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q102	8-729-122-63	s	TRANSISTOR 2SA1226
Q103	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q104	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q105	8-729-122-63	s	TRANSISTOR 2SA1226
Q107	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q108	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q109	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q110	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q150	8-769-401-68	s	TRANSISTOR 3SK163-2
Q151	8-729-122-63	s	TRANSISTOR 2SA1226
Q201	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q202	8-729-122-63	s	TRANSISTOR 2SA1226
Q203	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q204	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q205	8-729-122-63	s	TRANSISTOR 2SA1226
Q207	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q208	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q209	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q210	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q250	8-769-401-68	s	TRANSISTOR 3SK163-2
Q251	8-729-122-63	s	TRANSISTOR 2SA1226
R6	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R7	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R13	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R15	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R16	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DA-29 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R17	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R19	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R21	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R22	1-216-609-11	s	METAL CHIP 18 0.50% 1/10W
R23	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R24	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R25	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R27	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R50	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R58	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R106	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R107	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R113	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R115	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R116	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R117	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R119	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R121	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R122	1-216-609-11	s	METAL CHIP 18 0.50% 1/10W
R123	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R124	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R125	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R127	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R150	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R158	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R206	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R207	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R213	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R215	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R216	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R217	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R219	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R221	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R222	1-216-609-11	s	METAL CHIP 18 0.50% 1/10W
R223	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R224	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R225	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R227	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R250	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R258	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
RB1	1-231-485-11	s	RESISTOR BLOCK 100x4
RB2	1-231-485-11	s	RESISTOR BLOCK 100x4
RB3	1-231-485-11	s	RESISTOR BLOCK 100x4
RB4	1-235-972-11	s	BLOCK 100
RB5	1-231-485-11	s	RESISTOR BLOCK 100x4
RB101	1-231-485-11	s	RESISTOR BLOCK 100x4
RB102	1-231-485-11	s	RESISTOR BLOCK 100x4
RB103	1-231-485-11	s	RESISTOR BLOCK 100x4
RB104	1-235-972-11	s	BLOCK 100
RB105	1-231-485-11	s	RESISTOR BLOCK 100x4
RB201	1-231-485-11	s	RESISTOR BLOCK 100x4
RB202	1-231-485-11	s	RESISTOR BLOCK 100x4
RB203	1-231-485-11	s	RESISTOR BLOCK 100x4
RB204	1-235-972-11	s	BLOCK 100
RB205	1-231-485-11	s	RESISTOR BLOCK 100x4
RB401	1-231-557-00	s	RESISTOR BLOCK 100Kx4
RV1	1-228-454-00	s	RES, ADJ, METAL 200
RV50	1-228-461-00	s	RES, ADJ, METAL 50K

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DA-29 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV101	1-228-454-00	s	RES, ADJ, METAL 200
RV150	1-228-461-00	s	RES, ADJ, METAL 50K
RV201	1-228-454-00	s	RES, ADJ, METAL 200
RV250	1-228-461-00	s	RES, ADJ, METAL 50K

DT-18 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-807-A	o	MOUNTED CIRCUIT BOARD, DT-18
1pc	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
1pc	1-571-792-11	s	THERMAL REED
2pcs	2-280-622-41	o	SUPPORT (M3), HEXAGON
1pc	3-673-249-11	o	LEVER, PC BOARD
6pcs	3-731-747-01	s	BUSHING, INSULATING
1pc	3-731-748-01	s	SHEET, INSULATING
4pcs	3-731-749-01	o	RUBBER, INSULATING
2pcs	3-731-758-01	o	KICKER, HEAT
2pcs	3-734-215-01	o	SUPPORT (M2.6)
1pc	8-759-747-99	s	IC WS57C49B-35D
C27	1-163-037-11	s	CERAMIC CHIP 0.022MF 10% 25V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CN2	1-506-752-31	o	CONNECTOR, 96P
CN3	1-506-752-31	o	CONNECTOR, 96P
CN4	1-506-752-31	o	CONNECTOR, 96P
CN5	1-506-468-11	o	CONNECTOR, 3P, MALE
CN5	1-562-148-11	o	HOUSING, 3P
CNI9	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI10	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI11	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI12	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI24	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI25	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI26	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI27	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI39	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI40	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI41	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI42	1-526-658-21	s	SOCKET, IC (DP) 24P
DL1	1-415-377-11	s	DELAY LINE 10nS
IC1	8-752-322-72	s	IC CXK1202S
IC2	8-752-322-72	s	IC CXK1202S
IC3	8-752-322-72	s	IC CXK1202S
IC4	8-752-322-72	s	IC CXK1202S
IC5	8-759-030-51	s	IC MC74F374M
IC6	8-759-030-51	s	IC MC74F374M
IC7	8-759-030-51	s	IC MC74F374M
IC8	8-759-030-51	s	IC MC74F374M
IC9	8-759-740-43	s	IC WS57C49B-35D/BLG
IC10	8-759-740-43	s	IC WS57C49B-35D/BLG
IC11	8-759-740-43	s	IC WS57C49B-35D/BLG
IC12	8-759-740-43	s	IC WS57C49B-35D/BLG
IC13	8-759-973-64	s	IC CXB1013G
IC14	8-759-973-65	s	IC CXB1014G
IC15	8-759-973-67	s	IC CXD1349G
IC16	8-752-322-72	s	IC CXK1202S
IC17	8-752-322-72	s	IC CXK1202S
IC18	8-752-322-72	s	IC CXK1202S
IC19	8-752-322-72	s	IC CXK1202S
IC20	8-759-030-51	s	IC MC74F374M
IC21	8-759-030-51	s	IC MC74F374M
IC22	8-759-030-51	s	IC MC74F374M
IC23	8-759-030-51	s	IC MC74F374M
IC24	8-759-740-43	s	IC WS57C49B-35D/BLG
IC25	8-759-740-43	s	IC WS57C49B-35D/BLG
IC26	8-759-740-43	s	IC WS57C49B-35D/BLG
IC27	8-759-740-43	s	IC WS57C49B-35D/BLG
IC28	8-759-973-64	s	IC CXB1013G
IC29	8-759-973-65	s	IC CXB1014G
IC30	8-759-973-67	s	IC CXD1349G
IC31	8-752-322-72	s	IC CXK1202S
IC32	8-752-322-72	s	IC CXK1202S
IC33	8-752-322-72	s	IC CXK1202S
IC34	8-752-322-72	s	IC CXK1202S
IC35	8-759-030-51	s	IC MC74F374M
IC36	8-759-030-51	s	IC MC74F374M
IC37	8-759-030-51	s	IC MC74F374M
IC38	8-759-030-51	s	IC MC74F374M
IC39	8-759-740-43	s	IC WS57C49B-35D/BLG
IC40	8-759-740-43	s	IC WS57C49B-35D/BLG
IC41	8-759-740-43	s	IC WS57C49B-35D/BLG
IC42	8-759-740-43	s	IC WS57C49B-35D/BLG
IC43	8-759-973-64	s	IC CXB1013G
IC44	8-759-973-65	s	IC CXB1014G
IC45	8-759-973-67	s	IC CXD1349G
IC46	8-759-204-82	s	IC TC40H244F
IC47	8-759-204-83	s	IC TC40H245F
IC48	8-759-204-82	s	IC TC40H244F
IC50	8-759-142-21	s	IC CXD1351
IC51	8-752-324-62	s	IC CXK5863P-35
IC52	8-759-204-51	s	IC TC40H008F
IC53	8-759-201-63	s	IC TC40H032F
IC54	8-759-002-72	s	IC MC10H116L
IC55	8-759-002-72	s	IC MC10H116L
IC56	8-759-931-69	s	IC SN74LS04NS
IC57	8-759-931-69	s	IC SN74LS04NS
IC58	8-759-201-63	s	IC TC40H032F
IC59	8-759-204-90	s	IC TC40H374F
IC60	8-759-204-82	s	IC TC40H244F
R213	1-216-022-00	s	METAL CHIP 75 5% 1/10W
R218	1-216-022-00	s	METAL CHIP 75 5% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

DT-19 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-808-A	o	MOUNTED CIRCUIT BOARD, DT-19
1pc	8-759-747-98	s	IC MBM27C128-20TV
4pcs	8-759-747-99	s	IC WS57C49B-35D
4pcs	8-759-748-01	s	IC MBM27C64-20CV
C1	1-126-103-11	s	ELECT 470uF 20% 16V
C200	1-126-103-11	s	ELECT 470uF 20% 16V
C201	1-126-103-11	s	ELECT 470uF 20% 16V
CN2	1-565-910-11	o	HOUSING, 96P
CN3	1-565-910-11	o	HOUSING, 96P
CN4	1-565-910-11	o	HOUSING, 96P
CNI17	1-540-024-12	o	SOCKET, IC
CNI30	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI31	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI32	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI41	1-540-024-12	o	SOCKET, IC
CNI42	1-540-024-12	o	SOCKET, IC
CNI43	1-540-024-12	o	SOCKET, IC
CNI44	1-540-024-12	o	SOCKET, IC
CNI55	1-540-024-12	o	SOCKET, IC
CNI56	1-540-024-12	o	SOCKET, IC
CNI57	1-540-024-12	o	SOCKET, IC
CNI58	1-540-024-12	o	SOCKET, IC
CNI59	1-540-024-12	o	SOCKET, IC
CNI60	1-540-024-12	o	SOCKET, IC
CNI61	1-540-024-12	o	SOCKET, IC
CNI62	1-540-024-12	o	SOCKET, IC
CNI81	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI82	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI83	1-526-658-21	s	SOCKET, IC (DP) 24P
CNI84	1-526-658-21	s	SOCKET, IC (DP) 24P
IC1	8-752-322-72	s	IC CXK1202S
IC2	8-752-322-72	s	IC CXK1202S
IC3	8-752-322-72	s	IC CXK1202S
IC4	8-752-322-72	s	IC CXK1202S
IC5	8-752-322-72	s	IC CXK1202S
IC6	8-752-322-72	s	IC CXK1202S
IC7	8-752-322-72	s	IC CXK1202S
IC8	8-752-322-72	s	IC CXK1202S
IC9	8-752-322-72	s	IC CXK1202S
IC10	8-759-973-66	s	IC CXD1348G
IC11	8-759-973-68	s	IC CXD1350G
IC12	8-759-973-67	s	IC CXD1349G
IC13	8-759-204-71	s	IC TC40H163F
IC14	8-759-204-71	s	IC TC40H163F
IC15	8-759-204-71	s	IC TC40H163F
IC16	8-759-204-51	s	IC TC40H008F
IC17	8-759-731-45	s	IC MBM27C128-20TV/DTV1
IC18	8-759-204-90	s	IC TC40H374F
IC20	8-759-931-67	s	IC SN74LS02NS
IC24	8-759-030-52	s	IC MC74F163AM
IC25	8-759-030-52	s	IC MC74F163AM
IC26	8-759-030-52	s	IC MC74F163AM
IC27	8-759-030-52	s	IC MC74F163AM
IC28	8-759-030-52	s	IC MC74F163AM
IC29	8-759-030-52	s	IC MC74F163AM
IC30	8-759-740-39	s	IC WSI57C49B-35D/DHR
IC31	8-759-740-41	s	IC WSI57C49B-35D/DHB
IC32	8-759-731-46	s	IC WSI57C49B-35D/DHG2

(DT-19 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC33	8-759-030-51	s	IC MC74F374M
IC34	8-759-030-51	s	IC MC74F374M
IC35	8-759-030-51	s	IC MC74F374M
IC36	8-759-930-57	s	IC SN74LS164NS
IC37	8-759-930-57	s	IC SN74LS164NS
IC38	8-759-930-57	s	IC SN74LS164NS
IC39	8-759-930-64	s	IC SN74LS174NS
IC40	8-759-931-69	s	IC SN74LS04NS
IC41	8-759-740-35	s	IC MBM27C64-20CV/DL0
IC42	8-759-740-36	s	IC MBM27C64-20CV/DL1
IC43	8-759-740-37	s	IC MBM27C64-20CV/DL2
IC44	8-759-740-38	s	IC MBM27C64-20CV/DL3
IC45	8-759-930-57	s	IC SN74LS164NS
IC46	8-759-930-57	s	IC SN74LS164NS
IC47	8-759-930-57	s	IC SN74LS164NS
IC48	8-759-930-57	s	IC SN74LS164NS
IC49	8-759-930-57	s	IC SN74LS164NS
IC50	8-759-930-57	s	IC SN74LS164NS
IC51	8-759-930-64	s	IC SN74LS174NS
IC53	8-759-930-64	s	IC SN74LS174NS
IC55	8-759-740-37	s	IC MBM27C64-20CV/DL2
IC56	8-759-740-38	s	IC MBM27C64-20CV/DL3
IC57	8-759-740-37	s	IC MBM27C64-20CV/DL2
IC58	8-759-740-38	s	IC MBM27C64-20CV/DL3
IC59	8-759-740-35	s	IC MBM27C64-20CV/DL0
IC60	8-759-740-36	s	IC MBM27C64-20CV/DL1
IC61	8-759-740-35	s	IC MBM27C64-20CV/DL0
IC62	8-759-740-36	s	IC MBM27C64-20CV/DL1
IC70	8-759-030-51	s	IC MC74F374M
IC71	8-759-030-51	s	IC MC74F374M
IC72	8-759-030-51	s	IC MC74F374M
IC73	8-759-030-51	s	IC MC74F374M
IC74	8-759-030-51	s	IC MC74F374M
IC75	8-759-030-51	s	IC MC74F374M
IC76	8-759-030-51	s	IC MC74F374M
IC77	8-759-030-51	s	IC MC74F374M
IC78	8-759-030-51	s	IC MC74F374M
IC79	8-759-030-51	s	IC MC74F374M
IC80	8-759-030-51	s	IC MC74F374M
IC81	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
IC82	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
IC83	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
IC84	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
IC85	8-759-929-99	s	IC SN74LS32NS
IC86	8-759-930-64	s	IC SN74LS174NS
IC87	8-759-931-69	s	IC SN74LS04NS
IC88	8-759-201-63	s	IC TC40H032F
IC89	8-759-201-63	s	IC TC40H032F
IC90	8-759-201-64	s	IC TC40H074F
S1	1-554-027-00	s	SWITCH, ROTARY
S5	1-554-080-00	s	SWITCH, ROTARY
S6	1-554-080-00	s	SWITCH, ROTARY
S7	1-570-622-11	s	SWITCH, DIP
S8	1-570-612-11	s	SWITCH, TOGGLE
S9	1-554-027-00	s	SWITCH, ROTARY

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

EX-187 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-811-A	o	MOUNTED CIRCUIT BOARD, EX-187
2pcs	3-673-676-21	o	RAIL, PC BOARD GUIDE
8pcs	7-622-207-05	s	N 2.6, TYPE 2
CN1	1-565-645-11	o	CONNECTOR, 4 LINE DIN 200P FEMALE
CN2	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)

IF-212 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-802-A	o	MOUNTED CIRCUIT BOARD, IF-212
1pc	3-673-249-11	o	LEVER, PC BOARD
C10	1-125-507-11	s	CAP, DOUBLE LAYERS 0.22FARAD 5.5V
C40	1-124-120-11	s	ELECT 220MF 20% 25V
C42	1-124-120-11	s	ELECT 220MF 20% 25V
C44	1-124-120-11	s	ELECT 220MF 20% 25V
C69	1-124-120-11	s	ELECT 220MF 20% 25V
C72	1-124-482-11	s	ELECT 33MF 20% 35V
C202	1-163-037-11	s	CERAMIC CHIP 0.022MF 10% 25V
C203	1-163-037-11	s	CERAMIC CHIP 0.022MF 10% 25V
C204	1-135-148-21	s	TANTALUM CHIP 1.5MF 10% 16V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CNI31	1-540-024-12	o	SOCKET, IC
CNI32	1-540-024-12	o	SOCKET, IC
CNI33	1-540-024-12	o	SOCKET, IC
CNI34	1-540-024-12	o	SOCKET, IC
CNI40	1-526-962-11	s	SOCKET, 68P FEMALE
CNI41	1-526-962-11	s	SOCKET, 68P FEMALE
CNI73	1-526-656-00	s	SOCKET, IC (DP) 20P
CP1	1-567-796-11	s	CRYSTAL 14.7456MHz
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-31	s	DIODE 1S2838
D3	8-719-104-34	s	DIODE 1S2836
D4	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
D6	8-719-104-34	s	DIODE 1S2836
D7	8-719-104-34	s	DIODE 1S2836
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-156-79	s	DIODE PS2703-1
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-156-79	s	DIODE PS2703-1
D13	8-719-110-08	s	DIODE RD8.2ES-B2
D201	8-719-812-43	s	DIODE TLG124A
D202	8-719-812-43	s	DIODE TLG124A
IC1	8-759-321-21	s	IC HD68HC000Y-8
IC2	8-759-925-96	s	IC SN74HC85NS
IC3	8-759-926-11	s	IC SN74HC138NS
IC4	8-759-926-11	s	IC SN74HC138NS
IC5	8-759-926-11	s	IC SN74HC138NS
IC6	8-759-926-11	s	IC SN74HC138NS
IC7	8-759-926-11	s	IC SN74HC138NS
IC8	8-759-925-84	s	IC SN74HC30NS
IC9	8-759-926-24	s	IC SN74HC164NS
IC10	8-759-925-85	s	IC SN74HC32NS
IC11	8-759-926-06	s	IC SN74HC126NS
IC12	8-759-973-71	s	IC TL7705CPS-B
IC13	8-759-926-14	s	IC SN74HC148NS
IC14	8-759-925-81	s	IC SN74HC20NS
IC15	8-759-925-85	s	IC SN74HC32NS
IC16	8-759-926-05	s	IC SN74HC125NS
IC17	8-759-925-90	s	IC SN74HC74NS
IC18	8-759-925-78	s	IC SN74HC10NS
IC19	8-759-925-78	s	IC SN74HC10NS
IC20	8-759-925-74	s	IC SN74HC04NS
IC21	8-759-925-85	s	IC SN74HC32NS
IC22	8-759-925-76	s	IC SN74HC08NS

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IF-212 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC23	8-759-925-74	s	IC SN74HC04NS
IC25	8-752-326-24	s	IC CXK58257M-12L
IC26	8-752-326-24	s	IC CXK58257M-12L
IC27	8-752-326-24	s	IC CXK58257M-12L
IC28	8-752-326-24	s	IC CXK58257M-12L
IC31	8-759-733-53	s	IC MBM27C256A-20TV/E1
IC32	8-759-733-54	s	IC MBM27C256A-20TV/01
IC33	8-759-733-55	s	IC MBM27C256A-20TV/E2
IC34	8-759-733-56	s	IC MBM27C256A-20TV/02
IC37	8-759-748-27	s	IC UPD28C64C-25
IC38	8-759-748-27	s	IC UPD28C64C-25
IC39	8-759-925-85	s	IC SN74HC32NS
IC40	8-759-321-70	s	IC HD63450CP10
IC41	8-759-321-70	s	IC HD63450CP10
IC42	8-759-926-66	s	IC SN74HC373NS
IC43	8-759-926-66	s	IC SN74HC373NS
IC44	8-759-926-49	s	IC SN74HC245NS
IC45	8-759-926-49	s	IC SN74HC245NS
IC47	8-759-926-66	s	IC SN74HC373NS
IC48	8-759-926-66	s	IC SN74HC373NS
IC49	8-759-926-49	s	IC SN74HC245NS
IC50	8-759-926-49	s	IC SN74HC245NS
IC52	8-759-925-74	s	IC SN74HC04NS
IC53	8-759-973-73	s	IC SCN6856C4N48
IC54	8-759-973-73	s	IC SCN6856C4N48
IC55	8-759-939-25	s	IC SN75176BP
IC56	8-759-939-25	s	IC SN75176BP
IC57	8-759-933-65	s	IC SN74LS244NS
IC59	8-759-925-72	s	IC SN74HC02NS
IC60	8-759-904-77	s	IC AM26LS32ACN
IC61	8-759-904-76	s	IC AM26LS31CN
IC62	8-759-973-63	s	IC MB89352PFQ
IC63	8-759-926-48	s	IC SN74HC244NS
IC64	8-759-926-49	s	IC SN74HC245NS
IC65	8-759-926-48	s	IC SN74HC244NS
IC66	8-759-926-48	s	IC SN74HC244NS
IC67	8-759-926-48	s	IC SN74HC244NS
IC68	8-759-926-67	s	IC SN74HC374NS
IC69	8-759-926-48	s	IC SN74HC244NS
IC70	8-759-925-85	s	IC SN74HC32NS
IC72	8-759-142-23	s	IC CXD1354M
IC73	8-759-918-28	s	IC AD7545JN
IC74	8-752-323-65	s	IC CXK5816M-15L
IC75	8-759-926-49	s	IC SN74HC245NS
IC76	1-808-285-11	s	IC BH-1253
IC77	8-759-929-26	s	IC TL431CPS
IC78	8-759-205-21	s	IC TC74HC221F
IC79	8-759-142-19	s	IC UPC4064G
IC80	8-759-925-90	s	IC SN74HC74NS
IC81	8-759-925-76	s	IC SN74HC08NS
IC82	8-759-926-05	s	IC SN74HC125NS
IC83	8-759-925-74	s	IC SN74HC04NS
IC84	8-759-708-05	s	IC NJM78L05A
IC85	8-759-708-05	s	IC NJM78L05A
IC86	8-759-973-72	s	IC SN74LS07NS
IC87	8-759-925-85	s	IC SN74HC32NS
IC88	8-759-926-67	s	IC SN74HC374NS
IC103	8-759-926-14	s	IC SN74HC148NS
IC104	8-759-925-90	s	IC SN74HC74NS

(IF-212 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC105	8-759-206-28	s	IC TC74HC123F
IC201	8-759-925-78	s	IC SN74HC10NS
IC202	8-759-925-74	s	IC SN74HC04NS
IC206	8-759-926-14	s	IC SN74HC148NS
IC207	8-759-206-28	s	IC TC74HC123F
IC208	8-759-930-39	s	IC SN74LS137NS
Q1	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q2	8-729-122-63	s	TRANSISTOR 2SA1226
Q8	8-729-230-31	s	TRANSISTOR 2SC3074LB
Q9	8-729-230-31	s	TRANSISTOR 2SC3074LB
R1	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R2	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R3	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R4	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R5	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R6	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R7	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R8	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R9	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R10	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R11	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R12	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R13	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R15	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R16	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R17	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R18	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R19	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R20	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R21	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R22	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R23	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R24	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R25	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R27	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R28	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R29	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R30	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R32	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R33	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R34	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R35	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R47	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R48	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R49	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R50	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R51	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R52	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R53	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R54	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R55	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R56	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R57	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R58	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R59	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R60	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R61	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R62	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R65	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R66	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R67	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R68	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R69	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R70	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R71	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R72	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R73	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R74	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R75	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R76	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R77	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R78	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R79	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R80	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R81	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R82	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R83	1-216-639-11	s	METAL CHIP 330 0.50% 1/10W
R84	1-216-639-11	s	METAL CHIP 330 0.50% 1/10W
R85	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R86	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R93	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R101	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
RB1	1-231-400-00	s	RESISTOR BLOCK 390x8
RB2	1-235-127-00	s	RESISTOR BLOCK 220x8
RB3	1-231-400-00	s	RESISTOR BLOCK 390x8
RB4	1-235-127-00	s	RESISTOR BLOCK 220x8
RB5	1-231-499-00	s	BLOCK, RESISTOR 390X4
RB6	1-231-493-00	s	BLOCK, RESISTOR 220X4
RB7	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB8	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB9	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB10	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB11	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB12	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB13	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB14	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB15	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RV1	1-228-456-00	s	RES, ADJ, METAL 1K
S1	1-571-029-11	s	SWITCH, PUSH (1 KEY)
S4	1-570-373-12	s	SWITCH, SLIDE
S5	1-570-373-12	s	SWITCH, SLIDE
S6	1-570-373-12	s	SWITCH, SLIDE
S7	1-570-623-11	s	SWITCH, DIP
S8	1-570-623-11	s	SWITCH, DIP
S9	1-570-375-12	s	SWITCH, SLIDE
S10	1-570-375-12	s	SWITCH, SLIDE
T1	1-448-224-11	s	TRANSFORMER, DC-DC CONVERTER

IV-18 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-804-A	o	MOUNTED CIRCUIT BOARD, IV-18
1pc	3-673-249-11	o	LEVER, PC BOARD
C1	1-124-584-00	s	ELECT 100MF 20% 10V
C3	1-124-584-00	s	ELECT 100MF 20% 10V
C5	1-124-589-11	s	ELECT 47MF 20% 10V
C7	1-124-589-11	s	ELECT 47MF 20% 10V
C11	1-124-584-00	s	ELECT 100MF 20% 10V
C12	1-124-589-11	s	ELECT 47MF 20% 10V
C13	1-124-584-00	s	ELECT 100MF 20% 10V
C14	1-124-584-00	s	ELECT 100MF 20% 10V
C15	1-124-589-11	s	ELECT 47MF 20% 10V
C16	1-124-584-00	s	ELECT 100MF 20% 10V
C31	1-124-584-00	s	ELECT 100MF 20% 10V
C32	1-124-589-11	s	ELECT 47MF 20% 10V
C33	1-124-584-00	s	ELECT 100MF 20% 10V
C34	1-124-584-00	s	ELECT 100MF 20% 10V
C35	1-124-589-11	s	ELECT 47MF 20% 10V
C36	1-124-584-00	s	ELECT 100MF 20% 10V
C51	1-124-584-00	s	ELECT 100MF 20% 10V
C52	1-124-589-11	s	ELECT 47MF 20% 10V
C53	1-124-584-00	s	ELECT 100MF 20% 10V
C54	1-124-584-00	s	ELECT 100MF 20% 10V
C55	1-124-589-11	s	ELECT 47MF 20% 10V
C56	1-124-584-00	s	ELECT 100MF 20% 10V
C101	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C110	1-163-084-00	s	CERAMIC CHIP 1.5PF 0.25PF 50V
C185	1-162-718-11	s	CERAMIC 220PF 5% 50V
C201	1-124-584-00	s	ELECT 100MF 20% 10V
C240	1-162-638-11	s	CERAMIC CHIP 1 16V
C301	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C310	1-163-084-00	s	CERAMIC CHIP 1.5PF 0.25PF 50V
C385	1-162-718-11	s	CERAMIC 220PF 5% 50V
C401	1-124-584-00	s	ELECT 100MF 20% 10V
C440	1-162-638-11	s	CERAMIC CHIP 1 16V
C501	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C510	1-163-084-00	s	CERAMIC CHIP 1.5PF 0.25PF 50V
C585	1-162-718-11	s	CERAMIC 220PF 5% 50V
C601	1-124-584-00	s	ELECT 100MF 20% 10V
C640	1-162-638-11	s	CERAMIC CHIP 1 16V
C705	1-162-638-11	s	CERAMIC CHIP 1 16V
C724	1-162-638-11	s	CERAMIC CHIP 1 16V
C748	1-161-485-00	s	CERAMIC 0.1MF 50V
C755	1-162-638-11	s	CERAMIC CHIP 1 16V
C902	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C916	1-163-084-00	s	CERAMIC CHIP 1.5PF 0.25PF 50V
C918	1-163-084-00	s	CERAMIC CHIP 1.5PF 0.25PF 50V
C922	1-162-638-11	s	CERAMIC CHIP 1 16V
C923	1-162-638-11	s	CERAMIC CHIP 1 16V
C924	1-162-638-11	s	CERAMIC CHIP 1 16V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
D11	8-719-105-32	s	DIODE RD2.7M-B2
D12	8-719-105-32	s	DIODE RD2.7M-B2
D14	8-719-105-90	s	DIODE RD5.6M-B1
D15	8-719-948-47	s	DIODE HSM88AS
D31	8-719-105-32	s	DIODE RD2.7M-B2
D32	8-719-105-32	s	DIODE RD2.7M-B2
D33	8-719-948-47	s	DIODE HSM88AS

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IV-18 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D34	8-719-105-90	s	DIODE RD5.6M-B1
D35	8-719-948-47	s	DIODE HSM88AS
D36	8-719-948-47	s	DIODE HSM88AS
D51	8-719-105-32	s	DIODE RD2.7M-B2
D52	8-719-105-32	s	DIODE RD2.7M-B2
D91	8-719-104-31	s	DIODE 1S2838
D92	8-719-104-31	s	DIODE 1S2838
D93	8-719-104-31	s	DIODE 1S2838
D94	8-719-104-31	s	DIODE 1S2838
D95	8-719-104-31	s	DIODE 1S2838
D96	8-719-104-31	s	DIODE 1S2838
D97	8-719-105-32	s	DIODE RD2.7M-B2
IC101	1-808-668-11	s	IC HDVA-1
IC102	1-808-668-11	s	IC HDVA-1
IC103	1-808-668-11	s	IC HDVA-1
IC104	1-808-668-11	s	IC HDVA-1
IC105	1-808-668-11	s	IC HDVA-1
IC106	1-808-668-11	s	IC HDVA-1
IC107	1-808-668-11	s	IC HDVA-1
IC109	1-808-668-11	s	IC HDVA-1
IC110	8-759-142-20	s	IC UPG4062G2
IC111	8-759-142-19	s	IC UPC4064G
IC112	8-759-142-20	s	IC UPG4062G2
IC301	1-808-668-11	s	IC HDVA-1
IC302	1-808-668-11	s	IC HDVA-1
IC303	1-808-668-11	s	IC HDVA-1
IC304	1-808-668-11	s	IC HDVA-1
IC305	1-808-668-11	s	IC HDVA-1
IC306	1-808-668-11	s	IC HDVA-1
IC307	1-808-668-11	s	IC HDVA-1
IC308	1-808-668-11	s	IC HDVA-1
IC309	1-808-668-11	s	IC HDVA-1
IC310	8-759-142-20	s	IC UPG4062G2
IC311	8-759-142-19	s	IC UPC4064G
IC501	1-808-668-11	s	IC HDVA-1
IC502	1-808-668-11	s	IC HDVA-1
IC503	1-808-668-11	s	IC HDVA-1
IC504	1-808-668-11	s	IC HDVA-1
IC505	1-808-668-11	s	IC HDVA-1
IC506	1-808-668-11	s	IC HDVA-1
IC507	1-808-668-11	s	IC HDVA-1
IC509	1-808-668-11	s	IC HDVA-1
IC510	8-759-142-20	s	IC UPG4062G2
IC511	8-759-142-19	s	IC UPC4064G
IC901	8-759-205-21	s	IC TC74HC221F
IC902	8-759-203-94	s	IC TC40H010F
IC903	8-759-009-34	s	IC MC14504BF
IC904	8-759-142-20	s	IC UPG4062G2
IC905	8-759-008-95	s	IC MC14028BF
IC906	8-759-009-49	s	IC MC14532BF
IC907	8-759-009-49	s	IC MC14532BF
Q91	8-769-401-68	s	TRANSISTOR 3SK163-2
Q92	8-729-122-63	s	TRANSISTOR 2SA1226
Q93	8-729-122-63	s	TRANSISTOR 2SA1226
Q94	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q95	8-729-122-63	s	TRANSISTOR 2SA1226
Q101	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q102	8-729-200-86	s	TRANSISTOR 2SC2714-0

(IV-18 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q103	8-729-112-65	s	TRANSISTOR 2SA1462
Q104	8-729-112-65	s	TRANSISTOR 2SA1462
Q105	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q106	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q107	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q108	8-769-401-68	s	TRANSISTOR 3SK163-2
Q109	8-769-401-68	s	TRANSISTOR 3SK163-2
Q110	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q111	8-769-401-68	s	TRANSISTOR 3SK163-2
Q112	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q113	8-769-401-68	s	TRANSISTOR 3SK163-2
Q114	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q115	8-769-401-68	s	TRANSISTOR 3SK163-2
Q116	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q117	8-769-401-68	s	TRANSISTOR 3SK163-2
Q118	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q119	8-769-401-68	s	TRANSISTOR 3SK163-2
Q120	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q121	8-769-401-68	s	TRANSISTOR 3SK163-2
Q122	8-769-401-68	s	TRANSISTOR 3SK163-2
Q123	8-769-401-68	s	TRANSISTOR 3SK163-2
Q124	8-769-401-68	s	TRANSISTOR 3SK163-2
Q125	8-769-401-68	s	TRANSISTOR 3SK163-2
Q126	8-769-401-68	s	TRANSISTOR 3SK163-2
Q127	8-769-401-68	s	TRANSISTOR 3SK163-2
Q128	8-769-401-68	s	TRANSISTOR 3SK163-2
Q129	8-769-401-68	s	TRANSISTOR 3SK163-2
Q130	8-769-401-68	s	TRANSISTOR 3SK163-2
Q131	8-769-401-68	s	TRANSISTOR 3SK163-2
Q132	8-769-401-68	s	TRANSISTOR 3SK163-2
Q133	8-769-401-68	s	TRANSISTOR 3SK163-2
Q134	8-769-401-68	s	TRANSISTOR 3SK163-2
Q135	8-769-401-68	s	TRANSISTOR 3SK163-2
Q136	8-769-401-68	s	TRANSISTOR 3SK163-2
Q137	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q138	8-769-401-68	s	TRANSISTOR 3SK163-2
Q139	8-769-401-68	s	TRANSISTOR 3SK163-2
Q141	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q142	8-769-401-68	s	TRANSISTOR 3SK163-2
Q143	8-769-401-68	s	TRANSISTOR 3SK163-2
Q144	8-769-401-68	s	TRANSISTOR 3SK163-2
Q145	8-769-401-68	s	TRANSISTOR 3SK163-2
Q146	8-729-122-63	s	TRANSISTOR 2SA1226
Q301	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q302	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q303	8-729-112-65	s	TRANSISTOR 2SA1462
Q304	8-729-112-65	s	TRANSISTOR 2SA1462
Q305	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q306	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q307	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q308	8-769-401-68	s	TRANSISTOR 3SK163-2
Q309	8-769-401-68	s	TRANSISTOR 3SK163-2
Q310	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q311	8-769-401-68	s	TRANSISTOR 3SK163-2
Q312	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q313	8-769-401-68	s	TRANSISTOR 3SK163-2
Q314	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q315	8-769-401-68	s	TRANSISTOR 3SK163-2
Q316	8-729-200-86	s	TRANSISTOR 2SC2714-0

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
Q317	8-769-401-68	s	TRANSISTOR 3SK163-2
Q318	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q319	8-769-401-68	s	TRANSISTOR 3SK163-2
Q320	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q321	8-769-401-68	s	TRANSISTOR 3SK163-2
Q322	8-769-401-68	s	TRANSISTOR 3SK163-2
Q323	8-769-401-68	s	TRANSISTOR 3SK163-2
Q324	8-769-401-68	s	TRANSISTOR 3SK163-2
Q325	8-769-401-68	s	TRANSISTOR 3SK163-2
Q326	8-769-401-68	s	TRANSISTOR 3SK163-2
Q327	8-769-401-68	s	TRANSISTOR 3SK163-2
Q328	8-769-401-68	s	TRANSISTOR 3SK163-2
Q329	8-769-401-68	s	TRANSISTOR 3SK163-2
Q330	8-769-401-68	s	TRANSISTOR 3SK163-2
Q331	8-769-401-68	s	TRANSISTOR 3SK163-2
Q332	8-769-401-68	s	TRANSISTOR 3SK163-2
Q333	8-769-401-68	s	TRANSISTOR 3SK163-2
Q334	8-769-401-68	s	TRANSISTOR 3SK163-2
Q335	8-769-401-68	s	TRANSISTOR 3SK163-2
Q336	8-769-401-68	s	TRANSISTOR 3SK163-2
Q337	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q338	8-769-401-68	s	TRANSISTOR 3SK163-2
Q339	8-769-401-68	s	TRANSISTOR 3SK163-2
Q340	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q341	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q342	8-769-401-68	s	TRANSISTOR 3SK163-2
Q343	8-769-401-68	s	TRANSISTOR 3SK163-2
Q344	8-769-401-68	s	TRANSISTOR 3SK163-2
Q345	8-769-401-68	s	TRANSISTOR 3SK163-2
Q346	8-729-122-63	s	TRANSISTOR 2SA1226
Q350	8-729-122-63	s	TRANSISTOR 2SA1226
Q351	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q352	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q353	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q501	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q502	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q503	8-729-112-65	s	TRANSISTOR 2SA1462
Q504	8-729-112-65	s	TRANSISTOR 2SA1462
Q505	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q506	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q507	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q508	8-769-401-68	s	TRANSISTOR 3SK163-2
Q509	8-769-401-68	s	TRANSISTOR 3SK163-2
Q510	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q511	8-769-401-68	s	TRANSISTOR 3SK163-2
Q512	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q513	8-769-401-68	s	TRANSISTOR 3SK163-2
Q514	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q515	8-769-401-68	s	TRANSISTOR 3SK163-2
Q516	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q517	8-769-401-68	s	TRANSISTOR 3SK163-2
Q518	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q519	8-769-401-68	s	TRANSISTOR 3SK163-2
Q520	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q521	8-769-401-68	s	TRANSISTOR 3SK163-2
Q522	8-769-401-68	s	TRANSISTOR 3SK163-2
Q523	8-769-401-68	s	TRANSISTOR 3SK163-2
Q524	8-769-401-68	s	TRANSISTOR 3SK163-2
Q525	8-769-401-68	s	TRANSISTOR 3SK163-2

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Ref. No. or Q'ty	Part No.	SP	Description
Q526	8-769-401-68	s	TRANSISTOR 3SK163-2
Q527	8-769-401-68	s	TRANSISTOR 3SK163-2
Q528	8-769-401-68	s	TRANSISTOR 3SK163-2
Q529	8-769-401-68	s	TRANSISTOR 3SK163-2
Q530	8-769-401-68	s	TRANSISTOR 3SK163-2
Q531	8-769-401-68	s	TRANSISTOR 3SK163-2
Q532	8-769-401-68	s	TRANSISTOR 3SK163-2
Q533	8-769-401-68	s	TRANSISTOR 3SK163-2
Q534	8-769-401-68	s	TRANSISTOR 3SK163-2
Q535	8-769-401-68	s	TRANSISTOR 3SK163-2
Q536	8-769-401-68	s	TRANSISTOR 3SK163-2
Q537	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q538	8-769-401-68	s	TRANSISTOR 3SK163-2
Q539	8-769-401-68	s	TRANSISTOR 3SK163-2
Q541	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q542	8-769-401-68	s	TRANSISTOR 3SK163-2
Q543	8-769-401-68	s	TRANSISTOR 3SK163-2
Q544	8-769-401-68	s	TRANSISTOR 3SK163-2
Q545	8-769-401-68	s	TRANSISTOR 3SK163-2
Q546	8-729-122-63	s	TRANSISTOR 2SA1226
R105	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R106	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R112	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R115	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R118	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R119	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R120	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R122	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R123	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R132	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R134	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R137	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R138	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R145	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R146	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R155	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R159	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R160	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R166	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R167	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R173	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R177	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R178	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R184	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R192	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R194	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R198	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R199	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R205	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R213	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R215	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R219	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R220	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R226	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R227	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R236	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R240	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R241	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R246	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R248	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R257	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R262	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R263	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R266	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R267	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R270	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R271	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R274	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R275	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R278	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R279	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R282	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R283	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R286	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R287	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R305	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R306	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R312	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R315	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R318	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R319	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R320	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R322	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R323	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R332	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R334	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R337	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R338	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R345	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R346	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R355	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R359	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R360	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R366	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R367	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R373	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R377	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R378	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R384	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R392	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R394	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R398	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R399	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R405	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R413	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R415	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R419	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R420	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R426	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R427	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R436	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R440	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R441	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R446	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R448	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R457	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R462	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R463	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R466	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R467	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R470	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R471	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R474	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R475	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R478	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R479	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R482	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R483	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R486	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R487	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R505	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R506	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R512	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R515	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R518	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R519	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R520	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R522	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R523	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R532	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R534	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R537	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R538	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R545	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R546	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R555	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R559	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R560	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R566	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R567	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R573	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R577	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R578	1-216-632-11	s	METAL CHIP 160 0.5% 1/10W
R584	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R592	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R594	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R598	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R599	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R605	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R613	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R615	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R619	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R620	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R626	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R627	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R636	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R640	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R641	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R646	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R648	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R657	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R662	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R663	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R666	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R667	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R670	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R671	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R674	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R675	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R678	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R679	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R682	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R683	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R686	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R687	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R704	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R709	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R710	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R718	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R730	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R731	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R735	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R736	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R737	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R738	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R739	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R743	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R744	1-216-656-11	s	METAL CHIP 1.6K 0.50% 1/10W
R752	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R754	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R755	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R764	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R767	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R771	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R781	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R785	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R786	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R791	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R792	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R803	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R806	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R807	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R813	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R827	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R828	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R832	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R833	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R834	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R835	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R836	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R850	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R857	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R858	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R861	1-216-062-00	s	METAL CHIP 3.6K 5% 1/10W
R910	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R911	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R922	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R926	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R928	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R930	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R933	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R934	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R935	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
RV11	1-228-454-00	s	RES, ADJ, METAL 200
RV12	1-228-459-00	s	RES, ADJ, METAL 10K

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(IV-18 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV31	1-228-454-00	s	RES, ADJ, METAL 200
RV51	1-228-454-00	s	RES, ADJ, METAL 200
RV52	1-228-459-00	s	RES, ADJ, METAL 10K
RV91	1-228-458-00	s	RES, ADJ, METAL 5K
RV92	1-228-457-00	s	RES, ADJ, METAL 2K
S1	1-570-373-12	s	SWITCH, SLIDE
S2	1-570-375-12	s	SWITCH, SLIDE

LF-20 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-629-803-12	o	PRINTED CIECUIT BOARD, LF-20
1pc	1-560-372-00	o	CONTACT, AWG22-28
1pc	1-561-514-00	o	HOUSING, ILG 2P FEMALE
1pc	1-943-901-11	o	HARNESS (FIB)
C1	1-130-789-00	s	FILM 1MF 5% 100V
C2	1-130-789-00	s	FILM 1MF 5% 100V
C3	1-130-789-00	s	FILM 1MF 5% 100V
C4	1-130-789-00	s	FILM 1MF 5% 100V
C5	1-130-789-00	s	FILM 1MF 5% 100V
C6	1-130-789-00	s	FILM 1MF 5% 100V
C7	1-136-193-11	s	FILM 0.47uF 5% 250V
C8	1-136-193-11	s	FILM 0.47uF 5% 250V
C9	1-136-193-11	s	FILM 0.47uF 5% 250V
C10	1-136-193-11	s	FILM 0.47uF 5% 250V
C11	1-136-193-11	s	FILM 0.47uF 5% 250V
C12	1-136-193-11	s	FILM 0.47uF 5% 250V
CN400	1-560-725-00	o	CONNECTOR, 16P, MALE
FB1	1-543-609-11	s	CORE, FERRITE
FB2	1-543-609-11	s	CORE, FERRITE

MB-205 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-799-A	o	MOUNTED CIRCUIT BOARD, MB-205
C1	1-161-888-11	s	CERAMIC 0.01MF 50V
CN1	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN2	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN3	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN4	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN5	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN6	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN7	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN8	1-565-646-11	o	CONNECTOR, 4 LINE DIN 200P
CN10	1-561-365-21	s	CONNECTOR, RF
CN11	1-561-365-21	s	CONNECTOR, RF
CN12	1-561-365-21	s	CONNECTOR, RF
CN13	1-561-365-21	s	CONNECTOR, RF
CN14	1-561-365-21	s	CONNECTOR, RF
CN15	1-561-365-21	s	CONNECTOR, RF
CN16	1-561-365-21	s	CONNECTOR, RF
CN17	1-561-365-21	s	CONNECTOR, RF
CN18	1-561-365-21	s	CONNECTOR, RF
CN19	1-561-365-21	s	CONNECTOR, RF
CN20	1-561-365-21	s	CONNECTOR, RF
CN21	1-561-365-21	s	CONNECTOR, RF
CN22	1-561-365-21	s	CONNECTOR, RF
CN23	1-561-365-21	s	CONNECTOR, RF
CN24	1-561-365-21	s	CONNECTOR, RF
CN25	1-561-365-21	s	CONNECTOR, RF
CN26	1-561-365-21	s	CONNECTOR, RF
CN27	1-561-365-21	s	CONNECTOR, RF
CN28	1-561-365-21	s	CONNECTOR, RF
CN29	1-561-365-21	s	CONNECTOR, RF
CN30	1-561-365-21	s	CONNECTOR, RF
CN31	1-561-365-21	s	CONNECTOR, RF
CN32	1-561-365-21	s	CONNECTOR, RF
CN33	1-561-365-21	s	CONNECTOR, RF
CN34	1-561-365-21	s	CONNECTOR, RF
CN35	1-561-365-21	s	CONNECTOR, RF
CN36	1-561-365-21	s	CONNECTOR, RF
CN37	1-561-365-21	s	CONNECTOR, RF
CN41	1-561-365-21	s	CONNECTOR, RF
CN42	1-561-365-21	s	CONNECTOR, RF
CN43	1-561-365-21	s	CONNECTOR, RF
CN44	1-561-365-21	s	CONNECTOR, RF
CN50	1-506-637-11	o	CONNECTOR, 16P MALE
CN51	1-506-631-11	o	CONNECTOR, 4P MALE
CN52	1-506-631-11	o	CONNECTOR, 4P MALE
CN53	1-506-631-11	o	CONNECTOR, 4P MALE
CN54	1-506-632-11	o	CONNECTOR, 6P MALE
CN55	1-506-632-11	o	CONNECTOR, 6P MALE
CN56	1-506-631-11	o	CONNECTOR, 4P MALE
CN57	1-506-632-11	o	CONNECTOR, 6P MALE
CN58	1-506-632-11	o	CONNECTOR, 6P MALE
CN59	1-506-633-11	o	CONNECTOR, 8P MALE
CN60	1-506-637-11	o	CONNECTOR, 16P MALE
CN61	1-506-633-11	o	CONNECTOR, 8P MALE
CN70	1-564-243-00	o	CONNECTOR, 6P, MALE
CN71	1-564-243-00	o	CONNECTOR, 6P, MALE
CN72	1-564-241-00	o	CONNECTOR, 4P, MALE
CN73	1-564-241-00	o	CONNECTOR, 4P, MALE
CN74	1-564-241-00	o	CONNECTOR, 4P, MALE
CN75	1-560-356-00	o	CONNECTOR POST HEADER, ILG(2P) MALE
CN100	1-560-731-00	o	HEADER, PIN 50P
D1	8-719-911-19	s	DIODE 1SS119
LY1	1-515-714-11	s	RELAY
Q1	8-729-178-55	s	TRANSISTOR 2SC2785-E
R1	1-249-417-11	s	CARBON 1K 5% 1/4W
R2	1-247-895-00	s	CARBON 470K 5% 1/4W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

MS-23 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-810-B	o	MOUNTED CIRCUIT BOARD, MS-23
1pc	3-673-249-11	o	LEVER, PC BOARD
C1	1-124-584-00	s	ELECT 100MF 20% 10V
C3	1-124-584-00	s	ELECT 100MF 20% 10V
C5	1-124-584-00	s	ELECT 100MF 20% 10V
C41	1-124-584-00	s	ELECT 100MF 20% 10V
C43	1-124-584-00	s	ELECT 100MF 20% 10V
C100	1-124-584-00	s	ELECT 100MF 20% 10V
C101	1-124-584-00	s	ELECT 100MF 20% 10V
C104	1-124-589-11	s	ELECT 47MF 20% 10V
C118	1-124-584-00	s	ELECT 100MF 20% 10V
C119	1-124-584-00	s	ELECT 100MF 20% 10V
C122	1-124-589-11	s	ELECT 47MF 20% 10V
C132	1-135-125-21	s	TANTALUM CHIP 33MF 20% 10V
C136	1-124-584-00	s	ELECT 100MF 20% 10V
C137	1-124-584-00	s	ELECT 100MF 20% 10V
C140	1-124-589-11	s	ELECT 47MF 20% 10V
C154	1-124-584-00	s	ELECT 100MF 20% 10V
C155	1-124-584-00	s	ELECT 100MF 20% 10V
C158	1-124-589-11	s	ELECT 47MF 20% 10V
C159	1-124-589-11	s	ELECT 47MF 20% 10V
C164	1-162-728-11	s	CERAMIC 560PF 5% 50V
C354	1-124-584-00	s	ELECT 100MF 20% 10V
C730	1-124-589-11	s	ELECT 47MF 20% 10V
C731	1-124-584-00	s	ELECT 100MF 20% 10V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CNI10	1-526-654-00	s	SOCKET, IC (DP) 16P
CNI11	1-526-654-00	s	SOCKET, IC (DP) 16P
CNI14	1-526-654-00	s	SOCKET, IC (DP) 16P
CNI15	1-526-654-00	s	SOCKET, IC (DP) 16P
COP1	1-564-948-21	o	CONNECTOR, 3P MALE
COP2	1-564-948-21	o	CONNECTOR, 3P MALE
COP3	1-564-948-21	o	CONNECTOR, 3P MALE
COR1	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR2	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR3	1-562-579-21	s	CONNECTOR, 2P FEMALE
CP1	1-231-455-00	s	BLOCK, CR
CP2	1-231-456-00	s	BLOCK, CR
D1	8-719-105-32	s	DIODE RD2.7M-B2
D300	8-719-109-84	s	DIODE RD5.1ES-B1
D301	8-719-109-84	s	DIODE RD5.1ES-B1
D302	8-719-109-84	s	DIODE RD5.1ES-B1
D303	8-719-109-84	s	DIODE RD5.1ES-B1
D304	8-719-109-84	s	DIODE RD5.1ES-B1
D305	8-719-109-84	s	DIODE RD5.1ES-B1
D306	8-719-109-84	s	DIODE RD5.1ES-B1
D307	8-719-109-84	s	DIODE RD5.1ES-B1
D308	8-719-109-84	s	DIODE RD5.1ES-B1
D309	8-719-109-84	s	DIODE RD5.1ES-B1
D310	8-719-109-84	s	DIODE RD5.1ES-B1
D311	8-719-109-84	s	DIODE RD5.1ES-B1
D312	8-719-109-84	s	DIODE RD5.1ES-B1
D313	8-719-109-84	s	DIODE RD5.1ES-B1
D314	8-719-109-84	s	DIODE RD5.1ES-B1
D315	8-719-109-84	s	DIODE RD5.1ES-B1
D316	8-719-109-84	s	DIODE RD5.1ES-B1

Ref. No. or Q'ty	Part No.	SP	Description
D317	8-719-109-84	s	DIODE RD5.1ES-B1
D318	8-719-109-84	s	DIODE RD5.1ES-B1
DL1	1-415-393-11	s	DELAY LINE 10nS
DL11	1-415-423-11	s	DELAY LINE 40nS
DL12	1-415-422-11	s	DELAY LINE 30nS
DL13	1-415-422-11	s	DELAY LINE 30nS
FL1	1-235-425-11	s	FILTER, LOW PASS
IC1	8-759-002-71	s	IC MC10H115L
IC2	8-759-002-77	s	IC MC10H124L
IC3	8-759-002-86	s	IC MC10H158L
IC4	8-759-209-15	s	IC TC4SU69F
IC5	8-759-002-83	s	IC MC10H141L
IC6	8-759-002-83	s	IC MC10H141L
IC7	8-759-002-83	s	IC MC10H141L
IC8	8-759-002-83	s	IC MC10H141L
IC9	8-759-002-64	s	IC MC10H103L
IC10	8-759-030-29	s	IC MCM10149L10, PROM
IC11	8-759-030-29	s	IC MCM10149L10, PROM
IC12	8-759-002-83	s	IC MC10H141L
IC13	8-759-002-83	s	IC MC10H141L
IC14	8-759-030-29	s	IC MCM10149L10, PROM
IC15	8-759-030-29	s	IC MCM10149L10, PROM
IC16	8-759-002-83	s	IC MC10H141L
IC17	8-759-002-83	s	IC MC10H141L
IC18	8-752-020-13	s	IC CX20201A-3
IC19	1-808-668-11	s	IC HDVA-1
IC20	8-759-929-26	s	IC TL431CPS
IC21	8-759-001-03	s	IC MC10103L
IC101	1-808-668-11	s	IC HDVA-1
IC102	8-759-142-20	s	IC UPG4062G2
IC103	1-808-668-11	s	IC HDVA-1
IC104	8-759-142-20	s	IC UPG4062G2
IC105	1-808-668-11	s	IC HDVA-1
IC106	8-759-142-20	s	IC UPG4062G2
IC107	1-808-668-11	s	IC HDVA-1
IC108	1-808-668-11	s	IC HDVA-1
IC109	8-759-142-20	s	IC UPG4062G2
IC110	1-808-668-11	s	IC HDVA-1
IC111	1-808-668-11	s	IC HDVA-1
IC112	8-759-142-20	s	IC UPG4062G2
IC113	1-808-668-11	s	IC HDVA-1
IC114	1-808-668-11	s	IC HDVA-1
IC115	8-759-142-20	s	IC UPG4062G2
IC120	8-759-204-66	s	IC TC40H157F
IC121	8-759-009-34	s	IC MC14504BF
IC122	8-759-204-51	s	IC TC40H008F
IC123	8-759-205-21	s	IC TC74HC221F
IC301	8-759-204-51	s	IC TC40H008F
IC302	8-759-209-15	s	IC TC4SU69F
IC303	1-808-668-11	s	IC HDVA-1
IC304	1-808-668-11	s	IC HDVA-1
IC305	8-759-203-91	s	IC TC40H365F
IC306	8-759-204-82	s	IC TC40H244F
IC307	8-759-204-82	s	IC TC40H244F
IC308	8-759-009-34	s	IC MC14504BF
IC309	8-759-009-34	s	IC MC14504BF
IC310	8-759-009-34	s	IC MC14504BF

Please see pages D-9 to D-13 for the part numbers
of capacitors and resistors that are not listed in
the parts list.

(MS-23 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC311	8-759-009-34	s	IC MC14504BF
IC312	1-808-668-11	s	IC HDVA-1
IC313	1-808-668-11	s	IC HDVA-1
IC314	8-759-209-15	s	IC TC4SU69F
IC315	8-759-209-15	s	IC TC4SU69F
IC601	8-759-204-83	s	IC TC40H245F
IC602	8-759-204-82	s	IC TC40H244F
IC603	8-759-204-82	s	IC TC40H244F
IC604	8-759-204-82	s	IC TC40H244F
IC605	8-759-204-82	s	IC TC40H244F
IC606	8-759-201-63	s	IC TC40H032F
IC607	8-759-203-91	s	IC TC40H365F
IC608	8-759-201-63	s	IC TC40H032F
IC609	8-759-916-49	s	IC SN74HC154NT
IC610	8-759-203-96	s	IC TC40H021F
IC611	8-759-201-63	s	IC TC40H032F
IC612	8-759-204-90	s	IC TC40H374F
IC613	8-759-204-90	s	IC TC40H374F
IC614	8-759-204-90	s	IC TC40H374F
IC615	8-759-204-90	s	IC TC40H374F
IC616	8-759-201-60	s	IC TC40H002F
IC617	8-759-926-48	s	IC SN74HC244NS
IC618	8-759-926-62	s	IC SN74HC365NS
IC619	8-759-204-82	s	IC TC40H244F
IC620	8-759-204-90	s	IC TC40H374F
IC701	1-808-668-11	s	IC HDVA-1
IC702	1-808-668-11	s	IC HDVA-1
IC703	1-808-668-11	s	IC HDVA-1
IC704	8-759-981-51	s	IC RC1496M
IC705	1-808-668-11	s	IC HDVA-1
IC706	8-759-142-20	s	IC UPG4062G2
IC707	8-759-209-15	s	IC TC4SU69F
IC801	8-759-142-20	s	IC UPG4062G2
L109	1-408-974-21	s	INDUCTOR 22uH
L300	1-408-970-21	s	INDUCTOR 10uH
L301	1-408-970-21	s	INDUCTOR 10uH
L302	1-408-970-21	s	INDUCTOR 10uH
L303	1-408-970-21	s	INDUCTOR 10uH
Q1	8-729-122-63	s	TRANSISTOR 2SA1226
Q2	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q3	8-729-122-63	s	TRANSISTOR 2SA1226
Q4	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q5	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q6	8-729-122-63	s	TRANSISTOR 2SA1226
Q7	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q100	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q101	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q102	8-769-401-68	s	TRANSISTOR 3SK163-2
Q103	8-769-401-68	s	TRANSISTOR 3SK163-2
Q104	8-769-401-68	s	TRANSISTOR 3SK163-2
Q105	8-769-401-68	s	TRANSISTOR 3SK163-2
Q106	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q107	8-769-401-68	s	TRANSISTOR 3SK163-2
Q108	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q109	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q110	8-769-401-68	s	TRANSISTOR 3SK163-2
Q111	8-769-401-68	s	TRANSISTOR 3SK163-2
Q112	8-769-401-68	s	TRANSISTOR 3SK163-2

(MS-23 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q113	8-769-401-68	s	TRANSISTOR 3SK163-2
Q114	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q115	8-769-401-68	s	TRANSISTOR 3SK163-2
Q116	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q117	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q118	8-769-401-68	s	TRANSISTOR 3SK163-2
Q119	8-769-401-68	s	TRANSISTOR 3SK163-2
Q120	8-769-401-68	s	TRANSISTOR 3SK163-2
Q121	8-769-401-68	s	TRANSISTOR 3SK163-2
Q122	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q123	8-769-401-68	s	TRANSISTOR 3SK163-2
Q124	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q125	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q126	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q127	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q128	8-769-401-68	s	TRANSISTOR 3SK163-2
Q129	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q130	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q131	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q132	8-769-401-68	s	TRANSISTOR 3SK163-2
Q133	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q134	8-769-401-68	s	TRANSISTOR 3SK163-2
Q135	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q300	8-729-122-63	s	TRANSISTOR 2SA1226
Q301	8-729-122-63	s	TRANSISTOR 2SA1226
Q302	8-729-122-63	s	TRANSISTOR 2SA1226
Q303	8-729-122-63	s	TRANSISTOR 2SA1226
Q304	8-729-122-63	s	TRANSISTOR 2SA1226
Q305	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q306	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q307	8-729-122-63	s	TRANSISTOR 2SA1226
Q308	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q309	8-729-140-46	s	TRANSISTOR 2SC3735-B34
Q310	8-729-122-63	s	TRANSISTOR 2SA1226
Q311	8-729-122-63	s	TRANSISTOR 2SA1226
Q312	8-729-122-63	s	TRANSISTOR 2SA1226
Q313	8-729-122-63	s	TRANSISTOR 2SA1226
Q314	8-729-122-63	s	TRANSISTOR 2SA1226
Q315	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q316	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q317	8-769-401-68	s	TRANSISTOR 3SK163-2
Q318	8-769-401-68	s	TRANSISTOR 3SK163-2
Q319	8-769-401-68	s	TRANSISTOR 3SK163-2
Q320	8-769-401-68	s	TRANSISTOR 3SK163-2
Q321	8-769-401-68	s	TRANSISTOR 3SK163-2
Q322	8-769-401-68	s	TRANSISTOR 3SK163-2
Q323	8-769-401-68	s	TRANSISTOR 3SK163-2
Q324	8-769-401-68	s	TRANSISTOR 3SK163-2
Q325	8-769-401-68	s	TRANSISTOR 3SK163-2
Q326	8-769-401-68	s	TRANSISTOR 3SK163-2
Q327	8-769-401-68	s	TRANSISTOR 3SK163-2
Q328	8-769-401-68	s	TRANSISTOR 3SK163-2
Q329	8-769-401-68	s	TRANSISTOR 3SK163-2
Q330	8-769-401-68	s	TRANSISTOR 3SK163-2
Q331	8-769-401-68	s	TRANSISTOR 3SK163-2
Q332	8-769-401-68	s	TRANSISTOR 3SK163-2
Q333	8-769-401-68	s	TRANSISTOR 3SK163-2
Q334	8-769-401-68	s	TRANSISTOR 3SK163-2
Q335	8-769-401-68	s	TRANSISTOR 3SK163-2

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(MS-23 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q336	8-769-401-68	s	TRANSISTOR 3SK163-2
Q337	8-769-401-68	s	TRANSISTOR 3SK163-2
Q338	8-769-401-68	s	TRANSISTOR 3SK163-2
Q339	8-769-401-68	s	TRANSISTOR 3SK163-2
Q340	8-769-401-68	s	TRANSISTOR 3SK163-2
Q341	8-769-401-68	s	TRANSISTOR 3SK163-2
Q342	8-769-401-68	s	TRANSISTOR 3SK163-2
Q343	8-769-401-68	s	TRANSISTOR 3SK163-2
Q344	8-769-401-68	s	TRANSISTOR 3SK163-2
Q345	8-769-401-68	s	TRANSISTOR 3SK163-2
Q346	8-769-401-68	s	TRANSISTOR 3SK163-2
Q347	8-769-401-68	s	TRANSISTOR 3SK163-2
Q348	8-769-401-68	s	TRANSISTOR 3SK163-2
Q349	8-769-401-68	s	TRANSISTOR 3SK163-2
Q350	8-769-401-68	s	TRANSISTOR 3SK163-2
Q351	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q352	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q353	8-729-140-46	s	TRANSISTOR 2SC3735-B34
Q354	8-729-122-63	s	TRANSISTOR 2SA1226
Q355	8-729-271-23	s	TRANSISTOR 2SC2712
Q356	8-729-271-23	s	TRANSISTOR 2SC2712
Q701	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q702	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q703	8-729-122-63	s	TRANSISTOR 2SA1226
Q704	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q705	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q706	8-729-122-63	s	TRANSISTOR 2SA1226
Q707	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q708	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q709	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q710	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q711	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q712	8-729-122-63	s	TRANSISTOR 2SA1226
Q713	8-729-122-63	s	TRANSISTOR 2SA1226
Q714	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q801	8-769-401-68	s	TRANSISTOR 3SK163-2
Q802	8-729-122-63	s	TRANSISTOR 2SA1226
Q803	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q804	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q805	8-729-122-63	s	TRANSISTOR 2SA1226
Q806	8-729-200-86	s	TRANSISTOR 2SC2714-0
R11	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R21	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R22	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R29	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R31	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R32	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R33	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R36	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R38	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R45	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R115	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R117	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R145	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R147	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R175	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R177	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R206	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R208	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R209	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R221	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R222	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R223	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R224	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R225	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R226	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R227	1-216-619-11	s	METAL CHIP 47 0.5% 1/10W
R228	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R229	1-216-625-11	s	METAL CHIP 82 0.50% 1/10W
R230	1-216-631-11	s	METAL CHIP 150 0.50% 1/10W
R231	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R232	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R235	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R236	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R237	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R251	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R252	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R253	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R254	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R255	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R256	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R257	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R258	1-216-613-11	s	METAL CHIP 27 0.5% 1/10W
R259	1-216-613-11	s	METAL CHIP 27 0.5% 1/10W
R260	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R262	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R266	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R268	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R280	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R281	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R282	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R283	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R284	1-216-633-11	s	METAL CHIP 180 0.50% 1/10W
R285	1-216-639-11	s	METAL CHIP 330 0.50% 1/10W
R286	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R287	1-216-631-11	s	METAL CHIP 150 0.50% 1/10W
R288	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R289	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R292	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R293	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R294	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R296	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R308	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R319	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R321	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R333	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R347	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R348	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R349	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R350	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R351	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R352	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R362	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R363	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R364	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R365	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R366	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R367	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R368	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R378	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R408	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R409	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R410	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R411	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R412	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R413	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R414	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R415	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R416	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R417	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R418	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R419	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R420	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R421	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R422	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R424	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R426	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R428	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R430	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R432	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R434	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R437	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R438	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R440	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R441	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R442	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R446	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R459	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R460	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R461	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R462	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R463	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R464	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R465	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R466	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R467	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R468	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R469	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R470	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R471	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R472	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R473	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R474	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R475	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R476	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R477	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R479	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R481	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R483	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R485	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R487	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R489	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R491	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R493	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R495	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R497	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R500	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R502	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R503	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R508	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R509	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R701	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R702	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R703	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R707	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R707	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R708	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R709	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R710	1-216-611-11	s	METAL CHIP 22 0.50% 1/10W
R711	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R715	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R716	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R722	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R727	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R732	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R734	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R741	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R743	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R744	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R745	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R746	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R747	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R759	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R760	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R761	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R762	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R763	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R764	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R765	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R766	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R767	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R771	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R772	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R773	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R774	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R776	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R778	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R779	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R780	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R786	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W
R787	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R791	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R792	1-216-604-11	s	METAL CHIP 11 0.50% 1/10W
R795	1-216-072-00	s	METAL CHIP 9.1K 5% 1/10W
R814	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R815	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R831	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R832	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R833	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R834	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R835	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R836	1-216-616-11	s	METAL CHIP 36 0.50% 1/10W
R837	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R838	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R839	1-216-605-11	s	METAL CHIP 12 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R840	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R841	1-216-614-11	s	METAL CHIP 30 0.50% 1/10W
R842	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R843	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R844	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R845	1-216-618-11	s	METAL CHIP 43 0.50% 1/10W
R846	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R847	1-216-631-11	s	METAL CHIP 150 0.50% 1/10W
R848	1-216-609-11	s	METAL CHIP 18 0.50% 1/10W
R849	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R850	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R851	1-216-609-11	s	METAL CHIP 18 0.50% 1/10W
R901	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
RB1	1-231-488-11	s	RESISTOR BLOCK 130X4
RB2	1-231-488-11	s	RESISTOR BLOCK 130X4
RB3	1-231-488-11	s	RESISTOR BLOCK 130X4
RB4	1-231-488-11	s	RESISTOR BLOCK 130X4
RB5	1-231-488-11	s	RESISTOR BLOCK 130X4
RB6	1-231-488-11	s	RESISTOR BLOCK 130X4
RB7	1-231-488-11	s	RESISTOR BLOCK 130X4
RB8	1-231-488-11	s	RESISTOR BLOCK 130X4
RB9	1-231-488-11	s	RESISTOR BLOCK 130X4
RB10	1-231-488-11	s	RESISTOR BLOCK 130X4
RB11	1-231-488-11	s	RESISTOR BLOCK 130X4
RB12	1-231-488-11	s	RESISTOR BLOCK 130X4
RB13	1-231-557-00	s	RESISTOR BLOCK 100Kx4
RV1	1-228-457-00	s	RES, ADJ, METAL 2K
RV100	1-228-454-00	s	RES, ADJ, METAL 200
RV101	1-228-454-00	s	RES, ADJ, METAL 200
RV102	1-228-454-00	s	RES, ADJ, METAL 200
RV103	1-228-453-00	s	RES, ADJ, METAL 100
RV104	1-228-454-00	s	RES, ADJ, METAL 200
RV105	1-228-454-00	s	RES, ADJ, METAL 200
RV106	1-228-453-00	s	RES, ADJ, METAL 100
RV107	1-228-454-00	s	RES, ADJ, METAL 200
RV300	1-228-453-00	s	RES, ADJ, METAL 100
RV301	1-228-453-00	s	RES, ADJ, METAL 100
RV302	1-228-455-00	s	RES, ADJ, METAL 500
RV303	1-228-455-00	s	RES, ADJ, METAL 500
RV701	1-228-457-00	s	RES, ADJ, METAL 2K
RV702	1-228-454-00	s	RES, ADJ, METAL 200
RV703	1-228-476-00	s	RES, ADJ, METAL 50K
S5	1-570-373-12	s	SWITCH, SLIDE
S11	1-570-610-11	s	SWITCH, TOGGLE
S12	1-570-610-11	s	SWITCH, TOGGLE
S13	1-570-610-11	s	SWITCH, TOGGLE
S14	1-570-610-11	s	SWITCH, TOGGLE
S15	1-570-610-11	s	SWITCH, TOGGLE
S21	1-570-610-11	s	SWITCH, TOGGLE
S22	1-570-610-11	s	SWITCH, TOGGLE
S23	1-570-610-11	s	SWITCH, TOGGLE
S24	1-570-610-11	s	SWITCH, TOGGLE
S601	1-570-623-11	s	SWITCH, DIP
S602	1-570-623-11	s	SWITCH, DIP
S603	1-570-623-11	s	SWITCH, DIP
S604	1-570-623-11	s	SWITCH, DIP
S605	1-570-623-11	s	SWITCH, DIP

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

PR-114 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-805-A	o	MOUNTED CIRCUIT BOARD, PR-114
1pc	3-673-249-11	o	LEVER, PC BOARD
C1	1-124-589-11	s	ELECT 47MF 20% 10V
C2	1-124-584-00	s	ELECT 100MF 20% 10V
C3	1-124-589-11	s	ELECT 47MF 20% 10V
C4	1-124-584-00	s	ELECT 100MF 20% 10V
C11	1-124-584-00	s	ELECT 100MF 20% 10V
C12	1-124-589-11	s	ELECT 47MF 20% 10V
C13	1-124-584-00	s	ELECT 100MF 20% 10V
C14	1-124-584-00	s	ELECT 100MF 20% 10V
C15	1-124-589-11	s	ELECT 47MF 20% 10V
C21	1-124-584-00	s	ELECT 100MF 20% 10V
C22	1-124-589-11	s	ELECT 47MF 20% 10V
C23	1-124-584-00	s	ELECT 100MF 20% 10V
C24	1-124-584-00	s	ELECT 100MF 20% 10V
C25	1-124-589-11	s	ELECT 47MF 20% 10V
C26	1-124-584-00	s	ELECT 100MF 20% 10V
C30	1-124-584-00	s	ELECT 100MF 20% 10V
C31	1-124-584-00	s	ELECT 100MF 20% 10V
C32	1-124-589-11	s	ELECT 47MF 20% 10V
C33	1-124-584-00	s	ELECT 100MF 20% 10V
C34	1-124-584-00	s	ELECT 100MF 20% 10V
C35	1-124-589-11	s	ELECT 47MF 20% 10V
C36	1-124-584-00	s	ELECT 100MF 20% 10V
C41	1-124-584-00	s	ELECT 100MF 20% 10V
C42	1-124-589-11	s	ELECT 47MF 20% 10V
C43	1-124-584-00	s	ELECT 100MF 20% 10V
C136	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C137	1-124-120-11	s	ELECT 220MF 20% 25V
C193	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C194	1-124-120-11	s	ELECT 220MF 20% 25V
C250	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C251	1-124-120-11	s	ELECT 220MF 20% 25V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
COP11	1-565-118-21	o	CONNECTOR 8P
COP12	1-564-947-21	o	CONNECTOR 2P
COP13	1-564-947-21	o	CONNECTOR 2P
COP21	1-565-118-21	o	CONNECTOR 8P
COP22	1-564-947-21	o	CONNECTOR 2P
COP23	1-564-947-21	o	CONNECTOR 2P
COP31	1-565-118-21	o	CONNECTOR 8P
COP32	1-564-947-21	o	CONNECTOR 2P
COP33	1-564-947-21	o	CONNECTOR 2P
COR11	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR12	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR13	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR14	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR21	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR22	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR23	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR24	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR31	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR32	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR33	1-562-579-21	s	CONNECTOR, 2P FEMALE
COR34	1-562-579-21	s	CONNECTOR, 2P FEMALE
D2	8-719-104-31	s	DIODE 1S2838

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Ref. No. or Q'ty	Part No.	SP	Description
D3	8-719-104-31	s	DIODE 1S2838
D4	8-719-105-32	s	DIODE RD2.7M-B2
D5	8-719-948-47	s	DIODE HSM88AS
D11	8-719-104-34	s	DIODE 1S2836
D12	8-719-104-34	s	DIODE 1S2836
D21	8-719-104-34	s	DIODE 1S2836
D22	8-719-104-34	s	DIODE 1S2836
D31	8-719-104-34	s	DIODE 1S2836
D32	8-719-104-34	s	DIODE 1S2836
D101	8-719-948-47	s	DIODE HSM88AS
D102	8-719-948-47	s	DIODE HSM88AS
D103	8-719-104-31	s	DIODE 1S2838
D104	8-719-106-22	s	DIODE RD7.5M-B1
D105	8-719-105-82	s	DIODE RD5.1M-B2
D106	8-719-106-22	s	DIODE RD7.5M-B1
D201	8-719-948-47	s	DIODE HSM88AS
D202	8-719-948-47	s	DIODE HSM88AS
D203	8-719-104-31	s	DIODE 1S2838
D204	8-719-106-22	s	DIODE RD7.5M-B1
D205	8-719-105-82	s	DIODE RD5.1M-B2
D206	8-719-106-22	s	DIODE RD7.5M-B1
D301	8-719-948-47	s	DIODE HSM88AS
D302	8-719-948-47	s	DIODE HSM88AS
D303	8-719-104-31	s	DIODE 1S2838
D304	8-719-106-22	s	DIODE RD7.5M-B1
D305	8-719-105-82	s	DIODE RD5.1M-B2
D306	8-719-106-22	s	DIODE RD7.5M-B1
D307	8-719-106-22	s	DIODE RD7.5M-B1
D308	8-719-106-22	s	DIODE RD7.5M-B1
D309	8-719-106-22	s	DIODE RD7.5M-B1
DL1	1-415-422-11	s	DELAY LINE 30nS
DL2	1-415-422-11	s	DELAY LINE 30nS
DL3	1-415-422-11	s	DELAY LINE 30nS
DL4	1-415-421-11	s	DELAY LINE 20nS
DL5	1-415-421-11	s	DELAY LINE 20nS
IC1	1-808-668-11	s	IC HDVA-1
IC2	8-759-981-51	s	IC RC1496M
IC3	1-808-668-11	s	IC HDVA-1
IC4	8-759-142-20	s	IC UPG4062G2
IC5	8-759-142-20	s	IC UPG4062G2
IC6	8-759-142-20	s	IC UPG4062G2
IC7	8-759-203-91	s	IC TC40H365F
IC8	8-759-201-60	s	IC TC40H002F
IC9	8-759-204-82	s	IC TC40H244F
IC10	8-759-204-90	s	IC TC40H374F
IC11	8-759-204-60	s	IC TC40H139F
IC12	8-759-009-19	s	IC MC14081BF
IC13	8-759-201-61	s	IC TC40H004F
IC14	8-759-100-93	s	IC UPC393G2
IC100	1-808-668-11	s	IC HDVA-1
IC101	1-808-668-11	s	IC HDVA-1
IC102	8-759-030-49	s	IC MCM1495M
IC103	1-808-668-11	s	IC HDVA-1
IC104	1-808-668-11	s	IC HDVA-1
IC105	1-808-668-11	s	IC HDVA-1
IC106	8-759-030-49	s	IC MCM1495M
IC107	1-808-668-11	s	IC HDVA-1
IC108	8-759-142-20	s	IC UPG4062G2
IC109	8-759-142-19	s	IC UPC4064G

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Ref. No. or Q'ty	Part No.	SP	Description
IC110	8-759-142-19	s	IC UPC4064G
IC111	8-759-142-20	s	IC UPG4062G2
IC112	8-759-142-20	s	IC UPG4062G2
IC113	8-759-142-20	s	IC UPG4062G2
IC200	1-808-668-11	s	IC HDVA-1
IC201	1-808-668-11	s	IC HDVA-1
IC202	8-759-030-49	s	IC MCM1495M
IC203	1-808-668-11	s	IC HDVA-1
IC204	1-808-668-11	s	IC HDVA-1
IC205	1-808-668-11	s	IC HDVA-1
IC206	8-759-030-49	s	IC MCM1495M
IC207	1-808-668-11	s	IC HDVA-1
IC208	8-759-142-20	s	IC UPG4062G2
IC209	8-759-142-19	s	IC UPC4064G
IC210	8-759-142-19	s	IC UPC4064G
IC211	8-759-142-20	s	IC UPG4062G2
IC212	8-759-142-20	s	IC UPG4062G2
IC213	8-759-142-20	s	IC UPG4062G2
IC214	8-759-142-20	s	IC UPG4062G2
IC215	8-759-209-97	s	IC TC4S81F
IC216	8-759-209-97	s	IC TC4S81F
IC217	8-759-209-57	s	IC TC4S69F
IC300	1-808-668-11	s	IC HDVA-1
IC301	1-808-668-11	s	IC HDVA-1
IC302	8-759-030-49	s	IC MCM1495M
IC303	1-808-668-11	s	IC HDVA-1
IC304	1-808-668-11	s	IC HDVA-1
IC305	1-808-668-11	s	IC HDVA-1
IC306	8-759-030-49	s	IC MCM1495M
IC307	1-808-668-11	s	IC HDVA-1
IC308	8-759-142-20	s	IC UPG4062G2
IC309	8-759-142-19	s	IC UPC4064G
IC310	8-759-142-19	s	IC UPC4064G
IC311	8-759-142-20	s	IC UPG4062G2
IC312	8-759-142-20	s	IC UPG4062G2
IC313	8-759-142-20	s	IC UPG4062G2
IC401	8-759-009-46	s	IC MC14528BF
Q1	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q2	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q3	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q4	8-729-122-63	s	TRANSISTOR 2SA1226
Q5	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q6	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q7	8-729-122-63	s	TRANSISTOR 2SA1226
Q8	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q9	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q10	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q11	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q12	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q13	8-729-122-63	s	TRANSISTOR 2SA1226
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q16	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q17	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q18	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q19	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q20	8-729-122-63	s	TRANSISTOR 2SA1226
Q21	8-729-200-86	s	TRANSISTOR 2SC2714-O

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PR-114 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q100	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q101	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q102	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q103	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q104	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q105	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q106	8-729-122-63	s	TRANSISTOR 2SA1226
Q107	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q108	8-729-122-63	s	TRANSISTOR 2SA1226
Q109	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q110	8-769-401-68	s	TRANSISTOR 3SK163-2
Q111	8-729-122-63	s	TRANSISTOR 2SA1226
Q112	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q113	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q114	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q115	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q116	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q117	8-769-401-68	s	TRANSISTOR 3SK163-2
Q118	8-729-122-63	s	TRANSISTOR 2SA1226
Q119	8-729-122-63	s	TRANSISTOR 2SA1226
Q120	8-729-122-63	s	TRANSISTOR 2SA1226
Q121	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q122	8-769-401-68	s	TRANSISTOR 3SK163-2
Q123	8-729-122-63	s	TRANSISTOR 2SA1226
Q124	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q125	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q126	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q127	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q128	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q129	8-729-122-63	s	TRANSISTOR 2SA1226
Q130	8-729-122-63	s	TRANSISTOR 2SA1226
Q131	8-769-401-68	s	TRANSISTOR 3SK163-2
Q132	8-769-401-68	s	TRANSISTOR 3SK163-2
Q133	8-769-401-68	s	TRANSISTOR 3SK163-2
Q134	8-769-401-68	s	TRANSISTOR 3SK163-2
Q136	8-729-122-63	s	TRANSISTOR 2SA1226
Q139	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q140	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q141	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q142	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q200	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q201	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q202	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q203	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q204	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q205	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q207	8-729-122-63	s	TRANSISTOR 2SA1226
Q208	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q209	8-729-122-63	s	TRANSISTOR 2SA1226
Q210	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q211	8-769-401-68	s	TRANSISTOR 3SK163-2
Q212	8-729-122-63	s	TRANSISTOR 2SA1226
Q213	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q214	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q215	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q216	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q217	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q218	8-769-401-68	s	TRANSISTOR 3SK163-2
Q219	8-729-122-63	s	TRANSISTOR 2SA1226

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Ref. No. or Q'ty	Part No.	SP	Description
Q220	8-729-122-63	s	TRANSISTOR 2SA1226
Q221	8-729-122-63	s	TRANSISTOR 2SA1226
Q222	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q223	8-769-401-68	s	TRANSISTOR 3SK163-2
Q224	8-729-122-63	s	TRANSISTOR 2SA1226
Q225	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q226	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q227	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q228	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q229	8-729-122-63	s	TRANSISTOR 2SA1226
Q230	8-729-122-63	s	TRANSISTOR 2SA1226
Q231	8-769-401-68	s	TRANSISTOR 3SK163-2
Q232	8-769-401-68	s	TRANSISTOR 3SK163-2
Q233	8-769-401-68	s	TRANSISTOR 3SK163-2
Q234	8-769-401-68	s	TRANSISTOR 3SK163-2
Q237	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q238	8-729-122-63	s	TRANSISTOR 2SA1226
Q239	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q240	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q241	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q242	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q243	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q244	8-729-122-63	s	TRANSISTOR 2SA1226
Q300	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q301	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q302	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q303	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q304	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q305	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q306	8-729-122-63	s	TRANSISTOR 2SA1226
Q307	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q308	8-729-122-63	s	TRANSISTOR 2SA1226
Q309	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q310	8-769-401-68	s	TRANSISTOR 3SK163-2
Q311	8-729-122-63	s	TRANSISTOR 2SA1226
Q312	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q313	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q314	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q315	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q316	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q317	8-769-401-68	s	TRANSISTOR 3SK163-2
Q318	8-729-122-63	s	TRANSISTOR 2SA1226
Q319	8-729-122-63	s	TRANSISTOR 2SA1226
Q320	8-729-122-63	s	TRANSISTOR 2SA1226
Q321	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q322	8-769-401-68	s	TRANSISTOR 3SK163-2
Q323	8-729-122-63	s	TRANSISTOR 2SA1226
Q324	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q325	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q327	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q328	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q329	8-729-122-63	s	TRANSISTOR 2SA1226
Q330	8-729-122-63	s	TRANSISTOR 2SA1226
Q331	8-769-401-68	s	TRANSISTOR 3SK163-2
Q332	8-769-401-68	s	TRANSISTOR 3SK163-2
Q333	8-769-401-68	s	TRANSISTOR 3SK163-2
Q334	8-769-401-68	s	TRANSISTOR 3SK163-2
Q336	8-729-216-22	s	TRANSISTOR 2SA812-M6
Q337	8-729-122-63	s	TRANSISTOR 2SA1226

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PR-114 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q339	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q340	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q341	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q342	8-729-200-86	s	TRANSISTOR 2SC2714-0
R5	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R6	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R15	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R16	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R22	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R23	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R30	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R31	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R32	1-216-611-11	s	METAL CHIP 22 0.5% 1/10W
R33	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R34	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R48	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R49	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R50	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R51	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R52	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R53	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R54	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R58	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R59	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R60	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R61	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R64	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R66	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R67	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R68	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R69	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R70	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R72	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R77	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R78	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R80	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R81	1-216-652-11	s	METAL CHIP 1.1K 0.5% 1/10W
R82	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R83	1-216-652-11	s	METAL CHIP 1.1K 0.5% 1/10W
R84	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R85	1-216-652-11	s	METAL CHIP 1.1K 0.5% 1/10W
R99	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R101	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R102	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R103	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R104	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R111	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R115	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R123	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R124	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R125	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R126	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R130	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R131	1-216-623-11	s	METAL CHIP 68 0.50% 1/10W
R132	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R134	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R145	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R149	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R151	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R156	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R163	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R165	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R171	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R173	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R175	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R176	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R177	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R180	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R182	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R184	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R186	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R187	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R189	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R192	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R193	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R194	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R195	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R196	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R198	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R202	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R203	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R204	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R205	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R207	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R209	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R212	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R213	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R216	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R221	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R222	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R223	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R225	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R227	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R233	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R234	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R235	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R236	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R242	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R244	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R247	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R251	1-216-614-11	s	METAL CHIP 30 0.50% 1/10W
R252	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
R255	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R258	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R259	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R260	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R261	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R262	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R264	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R265	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R266	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R267	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R268	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R269	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R270	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R271	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R273	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R274	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R285	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R286	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W
R289	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R290	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R291	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R293	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R294	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R297	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R303	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R304	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R305	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R306	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R313	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R317	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R325	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R326	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R327	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R328	1-216-656-11	s	METAL CHIP 1.6K 0.5% 1/10W
R329	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R332	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R334	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R338	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R351	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R355	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R356	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R357	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R359	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R362	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R369	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R371	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R377	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R379	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R381	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R382	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R383	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R386	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R388	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R390	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R392	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R393	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R395	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R398	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R399	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R400	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R401	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R402	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R404	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R408	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R409	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R410	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R411	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R413	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R415	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R418	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R419	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R422	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R427	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R428	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R429	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R430	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R431	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R433	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R436	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R439	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R440	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R441	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R442	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R448	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R450	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R453	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R457	1-216-614-11	s	METAL CHIP 30 0.50% 1/10W
R458	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
R461	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R464	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R465	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R466	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R467	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R468	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R470	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R471	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R472	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R473	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R474	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R475	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R476	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R477	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R479	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R480	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R488	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R492	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R493	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R496	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R497	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R498	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R499	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R500	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R502	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R509	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R510	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R511	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R512	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R519	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R523	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R531	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R532	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R533	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R534	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R535	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R538	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R540	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R542	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R553	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R557	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R558	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R559	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R561	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R564	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R571	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R573	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R579	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R581	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R583	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R584	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R585	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R588	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R590	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R592	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R594	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R595	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R597	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R600	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R601	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R602	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R603	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R604	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R606	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R610	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R611	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R612	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R613	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R614	1-216-623-11	s	METAL CHIP 68 0.50% 1/10W
R615	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R617	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R620	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R621	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R624	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R629	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R630	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R631	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R633	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R635	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R641	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R642	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R643	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R644	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R650	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R652	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R655	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R659	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R660	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
R663	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R666	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R667	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R668	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R669	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R670	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R672	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R673	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R674	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R675	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R676	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R677	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R678	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R679	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R682	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R693	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R694	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R697	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R698	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R699	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R701	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R702	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R706	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R707	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R708	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R709	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R710	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R711	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R712	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R765	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R775	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R776	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R777	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R778	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R799	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R804	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R805	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R806	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R807	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R808	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R901	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R902	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R903	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R904	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R908	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R909	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R910	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R915	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R916	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R917	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R918	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R919	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R920	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R924	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R926	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R931	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R932	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R933	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R934	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R935	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R939	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R941	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R946	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R947	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R961	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R962	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R963	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R964	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R965	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R970	1-216-696-11	s	METAL CHIP 75K 0.50% 1/10W
R973	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
RV1	1-228-457-00	s	RES, ADJ, METAL 2K
RV2	1-228-469-00	s	RES, ADJ, METAL 200
RV3	1-228-476-00	s	RES, ADJ, METAL 50K
RV5	1-228-462-00	s	RES, ADJ, METAL 100K
RV100	1-228-459-00	s	RES, ADJ, METAL 10K

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PR-114 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV101	1-228-457-00	s	RES, ADJ, METAL 2K
RV102	1-228-454-00	s	RES, ADJ, METAL 200
RV103	1-228-476-00	s	RES, ADJ, METAL 50K
RV104	1-228-476-00	s	RES, ADJ, METAL 50K
RV105	1-228-476-00	s	RES, ADJ, METAL 50K
RV106	1-228-454-00	s	RES, ADJ, METAL 200
RV107	1-228-454-00	s	RES, ADJ, METAL 200
RV108	1-228-453-00	s	RES, ADJ, METAL 100
RV109	1-228-461-00	s	RES, ADJ, METAL 50K
RV110	1-228-454-00	s	RES, ADJ, METAL 200
RV111	1-228-476-00	s	RES, ADJ, METAL 50K
RV112	1-228-457-00	s	RES, ADJ, METAL 2K
RV113	1-228-457-00	s	RES, ADJ, METAL 2K
RV114	1-228-455-00	s	RES, ADJ, METAL 500
RV200	1-228-457-00	s	RES, ADJ, METAL 2K
RV201	1-228-457-00	s	RES, ADJ, METAL 2K
RV202	1-228-454-00	s	RES, ADJ, METAL 200
RV203	1-228-476-00	s	RES, ADJ, METAL 50K
RV204	1-228-476-00	s	RES, ADJ, METAL 50K
RV205	1-228-476-00	s	RES, ADJ, METAL 50K
RV206	1-228-454-00	s	RES, ADJ, METAL 200
RV207	1-228-454-00	s	RES, ADJ, METAL 200
RV208	1-228-453-00	s	RES, ADJ, METAL 100
RV209	1-228-461-00	s	RES, ADJ, METAL 50K
RV210	1-228-454-00	s	RES, ADJ, METAL 200
RV211	1-228-476-00	s	RES, ADJ, METAL 50K
RV212	1-228-457-00	s	RES, ADJ, METAL 2K
RV213	1-228-457-00	s	RES, ADJ, METAL 2K
RV214	1-228-455-00	s	RES, ADJ, METAL 500
RV300	1-228-457-00	s	RES, ADJ, METAL 2K
RV301	1-228-457-00	s	RES, ADJ, METAL 2K
RV302	1-228-454-00	s	RES, ADJ, METAL 200
RV303	1-228-476-00	s	RES, ADJ, METAL 50K
RV304	1-228-476-00	s	RES, ADJ, METAL 50K
RV305	1-228-476-00	s	RES, ADJ, METAL 50K
RV306	1-228-454-00	s	RES, ADJ, METAL 200
RV307	1-228-454-00	s	RES, ADJ, METAL 200
RV308	1-228-453-00	s	RES, ADJ, METAL 100
RV309	1-228-461-00	s	RES, ADJ, METAL 50K
RV310	1-228-454-00	s	RES, ADJ, METAL 200
RV311	1-228-476-00	s	RES, ADJ, METAL 50K
RV312	1-228-457-00	s	RES, ADJ, METAL 2K
RV313	1-228-457-00	s	RES, ADJ, METAL 2K
RV314	1-228-455-00	s	RES, ADJ, METAL 500
S100	1-570-610-11	s	SWITCH, TOGGLE
S200	1-570-610-11	s	SWITCH, TOGGLE
S201	1-570-373-12	s	SWITCH, SLIDE
S300	1-570-373-12	s	SWITCH, SLIDE
S301	1-570-621-11	s	SWITCH, DIP
THP1	1-808-969-11	s	THERMISTOR(POSITIVE)
THP2	1-808-969-11	s	THERMISTOR(POSITIVE)
THP3	1-808-970-11	s	THERMISTOR(POSITIVE)

SG-140 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-803-B	o	MOUNTED CIRCUIT BOARD, SG-140
1pc	A-7520-410-A	o	MOUNTED CIRCUIT BOARD, SG-155
2pcs	2-280-622-31	o	SUPPORT (M3X12), HEXAGON
6pcs	2-832-007-00	s	BUSHING (K), INSULATING
6pcs	2-990-404-01	o	HEAT SINK (PH291-H-9-M)
1pc	3-673-249-11	o	LEVER, PC BOARD
6pcs	3-703-207-11	s	INSULATOR, TO-220
6pcs	7-622-207-05	s	N 2.6, TYPE 2
C1	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C2	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C3	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C10	1-162-638-11	s	CERAMIC CHIP 1 16V
C20	1-135-125-21	s	TANTALUM CHIP 33MF 20% 10V
C102	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C103	1-124-120-11	s	ELECT 220MF 20% 25V
C104	1-124-120-11	s	ELECT 220MF 20% 25V
C105	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C111	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C112	1-124-463-00	s	ELECT 0.1MF 20% 50V
C114	1-124-261-00	s	ELECT 10uF 20% 50V
C115	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C116	1-124-261-00	s	ELECT 10uF 20% 50V
C117	1-124-261-00	s	ELECT 10uF 20% 50V
C118	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C120	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C121	1-124-463-00	s	ELECT 0.1MF 20% 50V
C122	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C124	1-124-261-00	s	ELECT 10uF 20% 50V
C125	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C126	1-124-261-00	s	ELECT 10uF 20% 50V
C127	1-124-261-00	s	ELECT 10uF 20% 50V
C128	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C130	1-126-160-11	s	ELECT 1MF 20% 50V
C131	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C132	1-126-160-11	s	ELECT 1MF 20% 50V
C133	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C134	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C135	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C160	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C161	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C162	1-135-164-21	s	TANTALUM CHIP 22uF 20% 10V
C203	1-161-485-00	s	CERAMIC 0.1MF 50V
C204	1-161-485-00	s	CERAMIC 0.1MF 50V
C209	1-126-517-11	s	ELECT 220MF 20% 25V
C210	1-126-516-11	s	ELECT 120MF 20% 16V
C211	1-130-776-00	s	FILM 0.47MF 5% 63V
C216	1-126-516-11	s	ELECT 120MF 20% 16V
C219	1-126-517-11	s	ELECT 220MF 20% 25V
C220	1-130-483-00	s	MYLAR 0.01MF 5% 50V
C221	1-126-103-11	s	ELECT 470uF 20% 16V
C222	1-130-776-00	s	FILM 0.47MF 5% 63V
C223	1-126-103-11	s	ELECT 470uF 20% 16V
C224	1-130-776-00	s	FILM 0.47MF 5% 63V
C227	1-127-517-11	s	ELECT 150MF 20% 16V
C230	1-161-897-11	s	CERAMIC 0.33MF 50V
C231	1-161-485-00	s	CERAMIC 0.1MF 50V
C235	1-126-517-11	s	ELECT 220MF 20% 25V
C236	1-127-517-11	s	ELECT 150MF 20% 16V

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C237	1-130-776-00	s	FILM 0.47MF 5% 63V
C242	1-127-517-11	s	ELECT 150MF 20% 16V
C245	1-126-517-11	s	ELECT 220MF 20% 25V
C246	1-130-483-00	s	MYLAR 0.01MF 5% 50V
C247	1-124-473-11	s	ELECT 1000MF 20% 10V
C248	1-130-776-00	s	FILM 0.47MF 5% 63V
C249	1-124-473-11	s	ELECT 1000MF 20% 10V
C250	1-130-776-00	s	FILM 0.47MF 5% 63V
C253	1-124-621-11	s	ELECT 3300uF 20% 6.3V
C255	1-161-900-11	s	CERAMIC 1MF 50V
C262	1-126-517-11	s	ELECT 220MF 20% 25V
C263	1-124-471-00	s	ELECT 1000MF 20% 6.3V
C264	1-130-776-00	s	FILM 0.47MF 5% 63V
C265	1-130-776-00	s	FILM 0.47MF 5% 63V
C266	1-124-471-00	s	ELECT 1000MF 20% 6.3V
C270	1-126-517-11	s	ELECT 220MF 20% 25V
C271	1-126-517-11	s	ELECT 220MF 20% 25V
C272	1-130-776-00	s	FILM 0.47MF 5% 63V
C275	1-124-621-11	s	ELECT 3300uF 20% 6.3V
C276	1-124-621-11	s	ELECT 3300uF 20% 6.3V
C279	1-126-517-11	s	ELECT 220MF 20% 25V
C280	1-130-776-00	s	FILM 0.47MF 5% 63V
C609	1-135-125-21	s	TANTALUM CHIP 33MF 20% 10V
C611	1-135-125-21	s	TANTALUM CHIP 33MF 20% 10V
C613	1-130-776-00	s	FILM 0.47MF 5% 63V
C614	1-130-776-00	s	FILM 0.47MF 5% 63V
C615	1-126-516-11	s	ELECT 120MF 20% 16V
C616	1-130-776-00	s	FILM 0.47MF 5% 63V
C617	1-130-776-00	s	FILM 0.47MF 5% 63V
C618	1-126-516-11	s	ELECT 120MF 20% 16V
C619	1-130-776-00	s	FILM 0.47MF 5% 63V
C620	1-124-471-00	s	ELECT 1000MF 20% 6.3V
C622	1-126-517-11	s	ELECT 220MF 20% 25V
C624	1-109-561-00	s	MICA 0.001uF 5% 100V
C654	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C660	1-124-604-00	s	ELECT 330uF 20% 10V
C661	1-124-604-00	s	ELECT 330uF 20% 10V
C705	1-135-125-21	s	TANTALUM CHIP 33MF 20% 10V
C706	1-124-471-00	s	ELECT 1000MF 20% 6.3V
CN1	1-565-644-11	o	CONNECTOR, 200P, 4 LINE DIN(MALE)
CN101	1-566-349-11	o	CONNECTOR, 40P
CN102	1-562-484-11	o	CONNECTOR, 40P FEMALE
CN103	1-563-793-11	o	CONNECTOR, 40P
CNI12	1-526-816-21	o	SOCKET, IC (DP) 24P
CNI13	1-526-816-21	o	SOCKET, IC (DP) 24P
CNI14	1-526-816-21	o	SOCKET, IC (DP) 24P
CNI16	1-526-816-21	o	SOCKET, IC (DP) 24P
CP1	1-577-136-11	s	CRYSTAL 74.25MHz
D1	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-970-48	s	DIODE GL107R12
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-948-47	s	DIODE HSM88AS
D104	8-719-948-47	s	DIODE HSM88AS
D105	8-719-948-47	s	DIODE HSM88AS
D106	8-719-948-47	s	DIODE HSM88AS
D107	8-719-948-47	s	DIODE HSM88AS

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D108	8-719-948-47	s	DIODE HSM88AS
D109	8-719-101-97	s	DIODE 1SS97-1
D110	8-719-101-97	s	DIODE 1SS97-1
D111	8-719-101-97	s	DIODE 1SS97-1
D112	8-719-101-97	s	DIODE 1SS97-1
D113	8-719-948-47	s	DIODE HSM88AS
D114	8-719-948-47	s	DIODE HSM88AS
D115	8-719-101-97	s	DIODE 1SS97-1
D116	8-719-101-97	s	DIODE 1SS97-1
D117	8-719-101-97	s	DIODE 1SS97-1
D118	8-719-101-97	s	DIODE 1SS97-1
D201	8-719-911-19	s	DIODE 1SS119
D202	8-719-911-19	s	DIODE 1SS119
D203	8-719-981-00	s	DIODE ERC81-004
D204	8-719-911-19	s	DIODE 1SS119
D205	8-719-911-19	s	DIODE 1SS119
D206	8-719-911-19	s	DIODE 1SS119
D207	8-719-903-06	s	DIODE ERC84-009
D208	8-719-911-19	s	DIODE 1SS119
D209	8-719-911-19	s	DIODE 1SS119
D210	8-719-911-19	s	DIODE 1SS119
D211	8-719-981-00	s	DIODE ERC81-004
D212	8-719-911-19	s	DIODE 1SS119
D213	8-719-911-19	s	DIODE 1SS119
D214	8-719-903-06	s	DIODE ERC84-009
D215	8-719-911-19	s	DIODE 1SS119
D216	8-719-911-19	s	DIODE 1SS119
D217	8-719-911-19	s	DIODE 1SS119
D218	8-719-911-19	s	DIODE 1SS119
D219	8-719-937-59	s	DIODE SB60-05H
D220	8-719-911-55	s	DIODE U05G
D221	8-719-101-67	s	DIODE RD7.5E-L2
D222	8-719-911-19	s	DIODE 1SS119
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-812-43	s	DIODE TLG124A
D303	8-719-812-43	s	DIODE TLG124A
D305	8-719-110-17	s	DIODE RD10ES-B2
FB1	1-535-178-00	s	RES, FERRITE
FB2	1-543-601-11	s	BEAD,FERRITE
FB201	1-543-528-11	s	BEAD, AMORPHOUS
FB210	1-543-601-11	s	BEAD, FERRITE
FB211	1-543-601-11	s	BEAD, FERRITE
FB212	1-543-601-11	s	BEAD, FERRITE
FB213	1-543-601-11	s	BEAD, FERRITE
IC1	8-759-142-24	s	IC CXD1353M
IC2	8-759-142-22	s	IC CXD1359M
IC3	8-741-122-90	s	IC BX1229
IC4	8-759-945-72	s	IC OP-07DPS
IC5	8-752-306-51	s	IC CX23065A
IC6	8-759-001-16	s	IC MC10116L
IC7	8-759-301-01	s	IC HD10101
IC8	8-759-301-01	s	IC HD10101
IC9	8-759-001-25	s	IC MC10125L
IC10	8-759-300-26	s	IC HD10136
IC11	8-759-925-72	s	IC SN74HC02NS
IC12	8-759-731-29	s	IC WSI57C49B-35T/H1
IC13	8-759-731-30	s	IC WSI57C49B-35T/H2
IC14	8-759-731-31	s	IC WSI57C49B-35T/H3

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC15	8-759-731-33	s	IC MBM27C256A-25CZ/V
IC16	8-759-731-32	s	IC WSI57C49B-35T/SYC
IC17	8-759-731-34	s	IC MB7114L/CBL
IC18	8-759-926-49	s	IC SN74HC245NS
IC19	8-759-004-98	s	IC MC14504BCP
IC20	8-759-927-46	s	IC SN74HC00NS
IC21	8-759-926-06	s	IC SN74HC126NS
IC22	8-759-926-11	s	IC SN74HC138NS
IC23	8-759-926-48	s	IC SN74HC244NS
IC24	8-759-926-48	s	IC SN74HC244NS
IC25	8-759-926-48	s	IC SN74HC244NS
IC26	8-759-980-44	s	IC TL712CPS
IC27	8-759-142-19	s	IC UPC4064G
IC28	8-759-925-90	s	IC SN74HC74NS
IC29	8-759-206-28	s	IC TC74HC123F
IC31	8-759-009-07	s	IC MC14053BF
IC33	8-759-927-46	s	IC SN74HC00NS
IC34	8-759-201-61	s	IC TC40H004F
IC35	8-759-929-79	s	IC SN74LS05NS
IC101	8-759-142-19	s	IC UPC4064G
IC102	8-759-981-86	s	IC RC4556MA
IC103	8-759-981-86	s	IC RC4556MA
IC104	8-759-009-34	s	IC MC14504BF
IC105	8-759-009-34	s	IC MC14504BF
IC106	8-759-009-07	s	IC MC14053BF
IC107	8-759-009-07	s	IC MC14053BF
IC108	8-759-009-07	s	IC MC14053BF
IC109	8-759-142-19	s	IC UPC4064G
IC111	8-759-009-07	s	IC MC14053BF
IC112	8-759-009-07	s	IC MC14053BF
IC114	8-759-142-19	s	IC UPC4064G
IC115	8-759-981-86	s	IC RC4556MA
IC116	8-759-981-86	s	IC RC4556MA
IC117	8-759-142-19	s	IC UPC4064G
IC118	8-759-981-86	s	IC RC4556MA
IC119	8-759-981-86	s	IC RC4556MA
IC120	8-759-142-19	s	IC UPC4064G
IC121	8-759-142-19	s	IC UPC4064G
IC122	8-741-119-00	s	IC BX1190
IC123	8-759-142-19	s	IC UPC4064G
IC201	8-759-937-36	s	IC TL1451ACNS
IC202	8-759-937-36	s	IC TL1451ACNS
IC203	8-759-937-36	s	IC TL1451ACNS
IC204	8-759-905-80	s	IC AD580M
IC205	8-759-014-29	s	IC MC34184M
IC301	8-759-014-29	s	IC MC34184M
IC302	8-759-205-21	s	IC TC74HC221F
IC303	8-759-205-21	s	IC TC74HC221F
IC304	8-759-001-98	s	IC MC10198L
IC304	8-759-142-20	s	IC UPG4062G2
IC305	8-759-926-11	s	IC SN74HC138NS
IC306	8-759-925-81	s	IC SN74HC20NS
IC307	8-759-927-46	s	IC SN74HC00NS
IC601	8-759-929-26	s	IC TL431CPS
L201	1-412-048-11	s	COIL, CHOKE 65uH
L202	1-412-049-11	s	COIL, CHOKE 200uH
L203	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)
L204	1-412-048-11	s	COIL, CHOKE 65uH
L205	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
L206	1-412-047-11	s	COIL, CHOKE 45uH
L207	1-412-047-11	s	COIL, CHOKE 45uH
L208	1-412-050-11	s	INDUCTOR (WITH CORE)
L209	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)
L210	1-412-050-11	s	INDUCTOR (WITH CORE)
L211	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)
L300	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)
L301	1-410-283-11	s	INDUCTOR, 48uH (WITH CORE)
PH1	8-719-120-02	s	DIODE PS2002B
Q1	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q2	8-729-122-63	s	TRANSISTOR 2SA1226
Q3	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q4	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q5	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q8	8-769-401-67	s	TRANSISTOR 3SK163-1
Q10	8-729-122-63	s	TRANSISTOR 2SA1226
Q101	8-729-122-63	s	TRANSISTOR 2SA1226
Q102	8-729-122-63	s	TRANSISTOR 2SA1226
Q103	8-729-122-63	s	TRANSISTOR 2SA1226
Q104	8-729-122-63	s	TRANSISTOR 2SA1226
Q201	8-729-266-83	s	TRANSISTOR 2SC2668
Q202	8-729-266-83	s	TRANSISTOR 2SC2668
Q203	8-729-110-53	s	TRANSISTOR 2SA1005
Q204	8-729-304-35	s	TRANSISTOR 2SJ122
Q205	8-729-230-32	s	TRANSISTOR 2SA1244LB
Q206	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q207	8-729-266-83	s	TRANSISTOR 2SC2668
Q208	8-729-266-83	s	TRANSISTOR 2SC2668
Q209	8-729-110-53	s	TRANSISTOR 2SA1005
Q210	8-729-304-35	s	TRANSISTOR 2SJ122
Q211	8-729-230-31	s	TRANSISTOR 2SC3074LB
Q212	8-729-119-76	s	TRANSISTOR 2SA1175-E
Q213	8-729-266-83	s	TRANSISTOR 2SC2668
Q214	8-729-266-83	s	TRANSISTOR 2SC2668
Q215	8-729-110-53	s	TRANSISTOR 2SA1005
Q216	8-729-304-35	s	TRANSISTOR 2SJ122
Q217	8-729-230-32	s	TRANSISTOR 2SA1244LB
Q218	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q219	8-729-266-83	s	TRANSISTOR 2SC2668
Q220	8-729-110-53	s	TRANSISTOR 2SA1005
Q221	8-729-304-35	s	TRANSISTOR 2SJ122
Q222	8-729-230-31	s	TRANSISTOR 2SC3074LB
Q223	8-729-119-76	s	TRANSISTOR 2SA1175-E
Q224	8-729-140-31	s	TRANSISTOR 2SA1461-Y23
Q225	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q226	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q227	8-729-140-31	s	TRANSISTOR 2SA1461-Y23
Q228	8-729-320-09	s	TRANSISTOR 2SK972
Q229	8-729-266-83	s	TRANSISTOR 2SC2668
Q301	8-729-230-31	s	TRANSISTOR 2SC3074LB
Q302	8-729-119-76	s	TRANSISTOR 2SA1175-E
R1	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R5	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R10	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R11	1-216-656-11	s	METAL CHIP 1.6K 0.5% 1/10W
R12	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
R15	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R34	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R35	1-216-048-00	s	METAL CHIP 910 5% 1/10W
R166	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R167	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R168	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R169	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R171	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R172	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R173	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R191	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R192	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R195	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R196	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R197	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R198	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R199	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R201	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R202	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R203	1-216-690-11	s	METAL CHIP 43K 0.50% 1/10W
R204	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R205	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R206	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R236	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R237	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R239	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R241	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R242	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R243	1-216-688-11	s	METAL CHIP 36K 0.50% 1/10W
R244	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R262	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R263	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R276	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R277	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R278	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R295	1-214-840-00	s	METAL 100 1% 1/2W
R400	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R401	1-216-693-11	s	METAL CHIP 56K 0.50% 1/10W
R419	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R420	1-216-692-11	s	METAL CHIP 51K 0.50% 1/10W
R444	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R446	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R448	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R449	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R450	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R452	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R453	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R454	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R483	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R494	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R495	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R497	1-216-096-00	s	METAL CHIP 91K 5% 1/10W
R502	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R503	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R509	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R510	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R527	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R604	1-247-883-00	s	CARBON 150K 5% 1/4W
R605	1-247-893-11	s	CARBON 390K 5% 1/4W
R609	1-247-878-00	s	CARBON 91K 5% 1/4W

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R610	1-249-439-11	s	CARBON 68K 5% 1/4W
R656	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R680	1-216-042-00	s	METAL CHIP 510 5% 1/10W
R684	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R687	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R802	1-247-800-11	s	CARBON 51 5% 1/4W
R803	1-249-423-11	s	CARBON 3.3K 5% 1/4W
RB1	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB2	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB4	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB5	1-231-557-00	s	RESISTOR BLOCK 100Kx4
RB6	1-231-533-00	s	RESISTOR BLOCK 10Kx4
RB7	1-231-557-00	s	RESISTOR BLOCK 100Kx4
RB8	1-231-525-00	s	RESISTOR BLOCK 4.7Kx4
RB9	1-231-557-00	s	RESISTOR BLOCK 100Kx4
RV1	1-226-369-00	s	RES, ADJ, METAL 5K
RV2	1-228-455-00	s	RES, ADJ, METAL 500
RV3	1-228-461-00	s	RES, ADJ, METAL 50K
RV4	1-228-461-00	s	RES, ADJ, METAL 50K
RV101	1-228-459-00	s	RES, ADJ, METAL 10K
RV102	1-228-461-00	s	RES, ADJ, METAL 50K
RV103	1-228-459-00	s	RES, ADJ, METAL 10K
RV104	1-228-461-00	s	RES, ADJ, METAL 50K
RV105	1-228-461-00	s	RES, ADJ, METAL 50K
RV106	1-228-461-00	s	RES, ADJ, METAL 50K
RV107	1-228-459-00	s	RES, ADJ, METAL 10K
RV108	1-228-459-00	s	RES, ADJ, METAL 10K
RV109	1-228-461-00	s	RES, ADJ, METAL 50K
RV110	1-228-461-00	s	RES, ADJ, METAL 50K
RV111	1-228-461-00	s	RES, ADJ, METAL 50K
RV112	1-228-459-00	s	RES, ADJ, METAL 10K
RV113	1-228-459-00	s	RES, ADJ, METAL 10K
RV114	1-228-461-00	s	RES, ADJ, METAL 50K
RV115	1-228-461-00	s	RES, ADJ, METAL 50K
RV116	1-228-457-00	s	RES, ADJ, METAL 2K
RV117	1-228-460-00	s	RES, ADJ, METAL 20K
RV118	1-228-457-00	s	RES, ADJ, METAL 2K
RV201	1-228-456-00	s	RES, ADJ, METAL 1K
RV202	1-228-456-00	s	RES, ADJ, METAL 1K
RV203	1-228-455-00	s	RES, ADJ, METAL 500
RV204	1-228-455-00	s	RES, ADJ, METAL 500
RV205	1-228-458-00	s	RES, ADJ, METAL 5K
RV206	1-228-458-00	s	RES, ADJ, METAL 5K
RV207	1-228-458-00	s	RES, ADJ, METAL 5K
RV208	1-228-455-00	s	RES, ADJ, METAL 500
RV300	1-228-459-00	s	RES, ADJ, METAL 10K
S2	1-570-373-12	s	SWITCH, SLIDE
S8	1-570-598-11	s	SWITCH, DIP
S9	1-570-373-12	s	SWITCH, SLIDE
S101	1-570-375-12	s	SWITCH, SLIDE
S102	1-570-375-12	s	SWITCH, SLIDE
S103	1-570-375-12	s	SWITCH, SLIDE
S104	1-570-373-12	s	SWITCH, SLIDE
S105	1-570-373-12	s	SWITCH, SLIDE
T101	1-426-038-00	s	TRANSFORMER
T102	1-426-038-00	s	TRANSFORMER
T103	1-426-038-00	s	TRANSFORMER

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SG-140 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
T104	1-426-038-00	s	TRANSFORMER

VDA-13 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7513-801-A	o	MOUNTED CIRCUIT BOARD, VDA-13
C22	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C25	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C28	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C31	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C34	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C37	1-163-090-00	s	CERAMIC CHIP 7PF 0.25PF 50V
C471	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C491	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
CN1	1-561-310-00	s	CONNECTOR, RF
CN2	1-561-310-00	s	CONNECTOR, RF
CN3	1-561-310-00	s	CONNECTOR, RF
CN4	1-561-310-00	s	CONNECTOR, RF
CN5	1-561-310-00	s	CONNECTOR, RF
CN6	1-561-310-00	s	CONNECTOR, RF
CN7	1-561-310-00	s	CONNECTOR, RF
CN8	1-561-310-00	s	CONNECTOR, RF
CN9	1-561-310-00	s	CONNECTOR, RF
CN10	1-561-310-00	s	CONNECTOR, RF
CN11	1-561-310-00	s	CONNECTOR, RF
CN12	1-506-637-11	o	CONNECTOR, 16P MALE
CN13	1-562-228-00	o	CONNECTOR, 8P
CN14	1-565-456-11	o	CONNECTOR 12P
CN15	1-565-456-11	o	CONNECTOR 12P
CN16	1-565-455-11	o	CONNECTOR 6P
CN17	1-562-480-11	o	CONNECTOR 10P
CN18	1-562-228-00	o	CONNECTOR, 8P
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226
D4	8-719-800-76	s	DIODE 1SS226
D11	8-719-800-76	s	DIODE 1SS226
D12	8-719-800-76	s	DIODE 1SS226
D13	8-719-800-76	s	DIODE 1SS226
D14	8-719-800-76	s	DIODE 1SS226
D21	8-719-800-76	s	DIODE 1SS226
D22	8-719-800-76	s	DIODE 1SS226
D23	8-719-800-76	s	DIODE 1SS226
D24	8-719-800-76	s	DIODE 1SS226
D31	8-719-800-76	s	DIODE 1SS226
D32	8-719-800-76	s	DIODE 1SS226
D33	8-719-800-76	s	DIODE 1SS226
D34	8-719-800-76	s	DIODE 1SS226
D41	8-719-800-76	s	DIODE 1SS226
D42	8-719-800-76	s	DIODE 1SS226
D43	8-719-800-76	s	DIODE 1SS226
D44	8-719-800-76	s	DIODE 1SS226
D51	8-719-800-76	s	DIODE 1SS226
D52	8-719-800-76	s	DIODE 1SS226
D53	8-719-800-76	s	DIODE 1SS226
D54	8-719-800-76	s	DIODE 1SS226
D61	8-719-800-76	s	DIODE 1SS226
D62	8-719-800-76	s	DIODE 1SS226
D63	8-719-800-76	s	DIODE 1SS226
D64	8-719-800-76	s	DIODE 1SS226
D71	8-719-800-76	s	DIODE 1SS226
D72	8-719-800-76	s	DIODE 1SS226

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D73	8-719-800-76	s	DIODE 1SS226
D74	8-719-800-76	s	DIODE 1SS226
D81	8-719-800-76	s	DIODE 1SS226
D82	8-719-800-76	s	DIODE 1SS226
D83	8-719-800-76	s	DIODE 1SS226
D84	8-719-800-76	s	DIODE 1SS226
D91	8-719-800-76	s	DIODE 1SS226
D92	8-719-800-76	s	DIODE 1SS226
D93	8-719-800-76	s	DIODE 1SS226
D94	8-719-800-76	s	DIODE 1SS226
D101	8-719-800-76	s	DIODE 1SS226
D102	8-719-800-76	s	DIODE 1SS226
D103	8-719-800-76	s	DIODE 1SS226
D104	8-719-800-76	s	DIODE 1SS226
D111	8-719-800-76	s	DIODE 1SS226
D112	8-719-800-76	s	DIODE 1SS226
D113	8-719-800-76	s	DIODE 1SS226
D114	8-719-800-76	s	DIODE 1SS226
D121	8-719-800-76	s	DIODE 1SS226
D122	8-719-800-76	s	DIODE 1SS226
D123	8-719-800-76	s	DIODE 1SS226
D124	8-719-800-76	s	DIODE 1SS226
D131	8-719-800-76	s	DIODE 1SS226
D132	8-719-800-76	s	DIODE 1SS226
D133	8-719-800-76	s	DIODE 1SS226
D134	8-719-800-76	s	DIODE 1SS226
D141	8-719-800-76	s	DIODE 1SS226
D142	8-719-800-76	s	DIODE 1SS226
D143	8-719-800-76	s	DIODE 1SS226
D144	8-719-800-76	s	DIODE 1SS226
D161	8-719-105-32	s	DIODE RD2.7M-B2
D162	8-719-105-32	s	DIODE RD2.7M-B2
D171	8-719-105-32	s	DIODE RD2.7M-B2
D172	8-719-105-32	s	DIODE RD2.7M-B2
D181	8-719-105-82	s	DIODE RD5.1M-B2
D182	8-719-105-82	s	DIODE RD5.1M-B2
D183	8-719-105-82	s	DIODE RD5.1M-B2
D184	8-719-105-82	s	DIODE RD5.1M-B2
D185	8-719-105-82	s	DIODE RD5.1M-B2
D186	8-719-105-82	s	DIODE RD5.1M-B2
D187	8-719-105-82	s	DIODE RD5.1M-B2
D188	8-719-105-82	s	DIODE RD5.1M-B2
D189	8-719-105-82	s	DIODE RD5.1M-B2
D190	8-719-105-82	s	DIODE RD5.1M-B2
IC1	8-759-209-57	s	IC TC4S69F
IC2	8-759-209-57	s	IC TC4S69F
IC3	1-808-668-11	s	IC HDVA-1
IC11	8-759-209-57	s	IC TC4S69F
IC12	8-759-209-57	s	IC TC4S69F
IC13	1-808-668-11	s	IC HDVA-1
IC21	8-759-209-57	s	IC TC4S69F
IC22	8-759-209-57	s	IC TC4S69F
IC23	1-808-668-11	s	IC HDVA-1
IC31	8-759-209-57	s	IC TC4S69F
IC32	8-759-209-57	s	IC TC4S69F
IC33	1-808-668-11	s	IC HDVA-1
IC41	8-759-209-57	s	IC TC4S69F
IC42	8-759-209-57	s	IC TC4S69F
IC43	1-808-668-11	s	IC HDVA-1
IC51	8-759-209-57	s	IC TC4S69F
IC52	8-759-209-57	s	IC TC4S69F
IC53	1-808-668-11	s	IC HDVA-1
IC61	8-759-209-57	s	IC TC4S69F
IC62	8-759-209-57	s	IC TC4S69F
IC63	1-808-668-11	s	IC HDVA-1
IC71	8-759-209-57	s	IC TC4S69F
IC72	8-759-209-57	s	IC TC4S69F
IC73	1-808-668-11	s	IC HDVA-1
IC81	8-759-209-57	s	IC TC4S69F
IC82	8-759-209-57	s	IC TC4S69F
IC83	1-808-668-11	s	IC HDVA-1
IC91	8-759-209-57	s	IC TC4S69F
IC92	8-759-209-57	s	IC TC4S69F
IC93	1-808-668-11	s	IC HDVA-1
IC101	8-759-209-57	s	IC TC4S69F
IC102	8-759-209-57	s	IC TC4S69F
IC103	1-808-668-11	s	IC HDVA-1
IC111	8-759-209-57	s	IC TC4S69F
IC112	8-759-209-57	s	IC TC4S69F
IC113	1-808-668-11	s	IC HDVA-1
IC121	8-759-209-57	s	IC TC4S69F
IC122	8-759-209-57	s	IC TC4S69F
IC123	1-808-668-11	s	IC HDVA-1
IC131	8-759-209-57	s	IC TC4S69F
IC132	8-759-209-57	s	IC TC4S69F
IC133	1-808-668-11	s	IC HDVA-1
IC141	8-759-209-57	s	IC TC4S69F
IC142	8-759-209-57	s	IC TC4S69F
IC143	1-808-668-11	s	IC HDVA-1
IC151	1-808-668-11	s	IC HDVA-1
IC152	1-808-668-11	s	IC HDVA-1
IC153	1-808-668-11	s	IC HDVA-1
IC154	1-808-668-11	s	IC HDVA-1
IC155	1-808-668-11	s	IC HDVA-1
IC156	1-808-668-11	s	IC HDVA-1
IC157	1-808-668-11	s	IC HDVA-1
IC158	1-808-668-11	s	IC HDVA-1
IC159	1-808-668-11	s	IC HDVA-1
IC161	8-759-009-34	s	IC MC14504BF
IC162	8-759-009-34	s	IC MC14504BF
Q1	8-729-112-65	s	TRANSISTOR 2SA1462
Q2	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q3	8-729-112-65	s	TRANSISTOR 2SA1462
Q4	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q5	8-729-112-65	s	TRANSISTOR 2SA1462
Q6	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q7	8-729-112-65	s	TRANSISTOR 2SA1462
Q8	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q9	8-729-112-65	s	TRANSISTOR 2SA1462
Q10	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q11	8-729-112-65	s	TRANSISTOR 2SA1462
Q12	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q13	8-729-112-65	s	TRANSISTOR 2SA1462
Q14	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q15	8-729-112-65	s	TRANSISTOR 2SA1462
Q16	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q17	8-729-112-65	s	TRANSISTOR 2SA1462

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q18	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q19	8-729-112-65	s	TRANSISTOR 2SA1462
Q20	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q21	8-729-112-65	s	TRANSISTOR 2SA1462
Q22	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q23	8-729-112-65	s	TRANSISTOR 2SA1462
Q24	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q25	8-729-112-65	s	TRANSISTOR 2SA1462
Q26	8-729-140-36	s	TRANSISTOR 2SC3734-B23
Q31	8-769-401-67	s	TRANSISTOR 3SK163-1
Q32	8-769-401-67	s	TRANSISTOR 3SK163-1
Q33	8-769-401-67	s	TRANSISTOR 3SK163-1
Q34	8-769-401-67	s	TRANSISTOR 3SK163-1
Q35	8-769-401-67	s	TRANSISTOR 3SK163-1
Q36	8-769-401-67	s	TRANSISTOR 3SK163-1
Q37	8-769-401-67	s	TRANSISTOR 3SK163-1
Q38	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q41	8-769-401-67	s	TRANSISTOR 3SK163-1
Q42	8-769-401-67	s	TRANSISTOR 3SK163-1
Q43	8-769-401-67	s	TRANSISTOR 3SK163-1
Q44	8-769-401-67	s	TRANSISTOR 3SK163-1
Q45	8-769-401-67	s	TRANSISTOR 3SK163-1
Q46	8-769-401-67	s	TRANSISTOR 3SK163-1
Q47	8-769-401-67	s	TRANSISTOR 3SK163-1
Q48	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q51	8-769-401-67	s	TRANSISTOR 3SK163-1
Q52	8-769-401-67	s	TRANSISTOR 3SK163-1
Q53	8-769-401-67	s	TRANSISTOR 3SK163-1
Q54	8-769-401-67	s	TRANSISTOR 3SK163-1
Q55	8-769-401-67	s	TRANSISTOR 3SK163-1
Q56	8-769-401-67	s	TRANSISTOR 3SK163-1
Q57	8-769-401-67	s	TRANSISTOR 3SK163-1
Q58	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q61	8-769-401-67	s	TRANSISTOR 3SK163-1
Q62	8-769-401-67	s	TRANSISTOR 3SK163-1
Q63	8-769-401-67	s	TRANSISTOR 3SK163-1
Q64	8-769-401-67	s	TRANSISTOR 3SK163-1
Q65	8-769-401-67	s	TRANSISTOR 3SK163-1
Q66	8-769-401-67	s	TRANSISTOR 3SK163-1
Q67	8-769-401-67	s	TRANSISTOR 3SK163-1
Q68	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q71	8-769-401-67	s	TRANSISTOR 3SK163-1
Q72	8-769-401-67	s	TRANSISTOR 3SK163-1
Q73	8-769-401-67	s	TRANSISTOR 3SK163-1
Q74	8-769-401-67	s	TRANSISTOR 3SK163-1
Q75	8-769-401-67	s	TRANSISTOR 3SK163-1
Q76	8-769-401-67	s	TRANSISTOR 3SK163-1
Q77	8-769-401-67	s	TRANSISTOR 3SK163-1
Q78	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q81	8-769-401-67	s	TRANSISTOR 3SK163-1
Q82	8-769-401-67	s	TRANSISTOR 3SK163-1
Q83	8-769-401-67	s	TRANSISTOR 3SK163-1
Q84	8-769-401-67	s	TRANSISTOR 3SK163-1
Q85	8-769-401-67	s	TRANSISTOR 3SK163-1
Q86	8-769-401-67	s	TRANSISTOR 3SK163-1
Q87	8-769-401-67	s	TRANSISTOR 3SK163-1
Q88	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q91	8-769-401-67	s	TRANSISTOR 3SK163-1
Q92	8-769-401-67	s	TRANSISTOR 3SK163-1

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Ref. No. or Q'ty	Part No.	SP	Description
Q93	8-769-401-67	s	TRANSISTOR 3SK163-1
Q94	8-769-401-67	s	TRANSISTOR 3SK163-1
Q95	8-769-401-67	s	TRANSISTOR 3SK163-1
Q96	8-769-401-67	s	TRANSISTOR 3SK163-1
Q97	8-769-401-67	s	TRANSISTOR 3SK163-1
Q98	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q101	8-769-401-67	s	TRANSISTOR 3SK163-1
Q102	8-769-401-67	s	TRANSISTOR 3SK163-1
Q103	8-769-401-67	s	TRANSISTOR 3SK163-1
Q104	8-769-401-67	s	TRANSISTOR 3SK163-1
Q105	8-769-401-67	s	TRANSISTOR 3SK163-1
Q106	8-769-401-67	s	TRANSISTOR 3SK163-1
Q107	8-769-401-67	s	TRANSISTOR 3SK163-1
Q108	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q111	8-769-401-67	s	TRANSISTOR 3SK163-1
Q112	8-769-401-67	s	TRANSISTOR 3SK163-1
Q113	8-769-401-67	s	TRANSISTOR 3SK163-1
Q114	8-769-401-67	s	TRANSISTOR 3SK163-1
Q115	8-769-401-67	s	TRANSISTOR 3SK163-1
Q116	8-769-401-67	s	TRANSISTOR 3SK163-1
Q117	8-769-401-67	s	TRANSISTOR 3SK163-1
Q118	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q121	8-769-401-67	s	TRANSISTOR 3SK163-1
Q122	8-769-401-67	s	TRANSISTOR 3SK163-1
Q123	8-769-401-67	s	TRANSISTOR 3SK163-1
Q124	8-769-401-67	s	TRANSISTOR 3SK163-1
Q125	8-769-401-67	s	TRANSISTOR 3SK163-1
Q126	8-769-401-67	s	TRANSISTOR 3SK163-1
Q127	8-769-401-67	s	TRANSISTOR 3SK163-1
Q128	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q131	8-769-401-67	s	TRANSISTOR 3SK163-1
Q132	8-769-401-67	s	TRANSISTOR 3SK163-1
Q133	8-769-401-67	s	TRANSISTOR 3SK163-1
Q134	8-769-401-67	s	TRANSISTOR 3SK163-1
Q135	8-769-401-67	s	TRANSISTOR 3SK163-1
Q136	8-769-401-67	s	TRANSISTOR 3SK163-1
Q137	8-769-401-67	s	TRANSISTOR 3SK163-1
Q138	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q141	8-769-401-67	s	TRANSISTOR 3SK163-1
Q142	8-769-401-67	s	TRANSISTOR 3SK163-1
Q143	8-769-401-67	s	TRANSISTOR 3SK163-1
Q144	8-769-401-67	s	TRANSISTOR 3SK163-1
Q145	8-769-401-67	s	TRANSISTOR 3SK163-1
Q146	8-769-401-67	s	TRANSISTOR 3SK163-1
Q147	8-769-401-67	s	TRANSISTOR 3SK163-1
Q148	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q151	8-769-401-67	s	TRANSISTOR 3SK163-1
Q152	8-769-401-67	s	TRANSISTOR 3SK163-1
Q153	8-769-401-67	s	TRANSISTOR 3SK163-1
Q154	8-769-401-67	s	TRANSISTOR 3SK163-1
Q155	8-769-401-67	s	TRANSISTOR 3SK163-1
Q156	8-769-401-67	s	TRANSISTOR 3SK163-1
Q157	8-769-401-67	s	TRANSISTOR 3SK163-1
Q158	8-729-200-86	s	TRANSISTOR 2SC2714-O
Q161	8-769-401-67	s	TRANSISTOR 3SK163-1
Q162	8-769-401-67	s	TRANSISTOR 3SK163-1
Q163	8-769-401-67	s	TRANSISTOR 3SK163-1
Q164	8-769-401-67	s	TRANSISTOR 3SK163-1
Q165	8-769-401-67	s	TRANSISTOR 3SK163-1

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q166	8-769-401-67	s	TRANSISTOR 3SK163-1
Q167	8-769-401-67	s	TRANSISTOR 3SK163-1
Q168	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q171	8-769-401-67	s	TRANSISTOR 3SK163-1
Q172	8-769-401-67	s	TRANSISTOR 3SK163-1
Q173	8-769-401-67	s	TRANSISTOR 3SK163-1
Q174	8-769-401-67	s	TRANSISTOR 3SK163-1
Q175	8-769-401-67	s	TRANSISTOR 3SK163-1
Q176	8-769-401-67	s	TRANSISTOR 3SK163-1
Q177	8-769-401-67	s	TRANSISTOR 3SK163-1
Q178	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q181	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q182	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q183	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q184	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q185	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q186	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q187	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q188	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q189	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q201	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q202	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q203	8-729-112-65	s	TRANSISTOR 2SA1462
Q204	8-729-112-65	s	TRANSISTOR 2SA1462
Q205	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q206	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q207	8-729-112-65	s	TRANSISTOR 2SA1462
Q211	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q212	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q213	8-729-112-65	s	TRANSISTOR 2SA1462
Q214	8-729-112-65	s	TRANSISTOR 2SA1462
Q215	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q216	8-729-200-86	s	TRANSISTOR 2SC2714-0
Q217	8-729-112-65	s	TRANSISTOR 2SA1462
R3	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R4	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R9	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R10	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R15	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R16	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R21	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R22	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R27	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R28	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R33	1-216-641-11	s	METAL CHIP 390 0.50% 1/10W
R34	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R39	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R40	1-216-626-11	s	METAL CHIP 91 0.50% 1/10W
R45	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R51	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R57	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R63	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R69	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R75	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R81	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R82	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R83	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R86	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R87	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R88	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R91	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R92	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R93	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R101	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R102	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R111	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R112	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R113	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R116	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R117	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R118	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R121	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R122	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R123	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R131	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R132	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R141	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R142	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R143	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R146	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R147	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R148	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R151	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R152	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R153	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R161	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R162	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R171	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R172	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R173	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R176	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R177	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R178	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R181	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R182	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R183	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R191	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R192	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R201	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R202	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R203	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R206	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R207	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R208	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R211	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R212	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R213	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R221	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R222	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R231	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R232	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R233	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R236	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R237	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R238	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R241	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R242	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R243	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R251	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R252	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R261	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R262	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R263	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R266	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R267	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R268	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R271	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R272	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R273	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R281	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R282	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R291	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R292	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R293	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R296	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R297	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R298	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R301	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R302	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R303	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R311	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R312	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R321	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R322	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R323	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R326	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R327	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R328	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R331	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R332	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R333	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R341	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R342	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R351	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R352	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R353	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R356	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R357	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R358	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R361	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R362	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R363	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R371	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R372	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R381	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R382	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R383	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R386	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R387	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R388	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R391	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R392	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R393	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R401	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R402	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R411	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R412	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R413	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R416	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R417	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R418	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R421	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R422	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R423	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R431	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R432	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R441	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R442	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R443	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R446	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R447	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R448	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R451	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R452	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R453	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R461	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R462	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R471	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R472	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R473	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R476	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R477	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R478	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R481	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R482	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R483	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R491	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R492	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R501	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R502	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R503	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R506	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R507	1-216-610-11	s	METAL CHIP 20 0.50% 1/10W
R508	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R511	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R512	1-216-612-11	s	METAL CHIP 24 0.50% 1/10W
R513	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R521	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R522	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R531	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R532	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R535	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R536	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R541	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R542	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R545	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R546	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R551	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R552	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R555	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R556	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R561	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R562	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R565	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R566	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R571	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VDA-13 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R572	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R575	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R576	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R581	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R582	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R583	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R584	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R586	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R587	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R588	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R591	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R592	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R593	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R594	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R596	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R597	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R598	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R601	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R602	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R603	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R604	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R606	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R607	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R608	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R611	1-216-603-11	s	METAL CHIP 10 0.5% 1/10W
R612	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R613	1-216-607-11	s	METAL CHIP 15 0.5% 1/10W
R614	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R616	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R617	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R618	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R641	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R642	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R645	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R648	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R650	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R651	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R653	1-216-022-00	s	METAL CHIP 75 5% 1/10W
R654	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R655	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R656	1-216-622-11	s	METAL CHIP 62 0.50% 1/10W
R657	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R658	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R661	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R662	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R665	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R668	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R670	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R671	1-216-630-11	s	METAL CHIP 130 0.50% 1/10W
R673	1-216-022-00	s	METAL CHIP 75 5% 1/10W
R674	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R675	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R676	1-216-622-11	s	METAL CHIP 62 0.50% 1/10W
R677	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R678	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠ 1-413-404-11	s	REGULATOR, SWITCHING (HDCP-2)
1pc	⚠ 1-552-060-21	s	SWITCH, ROCKER(AC POWER)
CN1M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN2M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN3M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN4M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN5M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN6M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN7M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN8M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN9M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN10M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN10M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN11M(to MB-205 board)			
	1-942-241-11	o	HARNESS (CHU)
	1-560-163-00	s	PLUG, RF
CN11M(to VDA-13 BOARD)			
	1-560-163-00	s	PLUG, RF
CN12F(to VDA-13 BOARD)			
	1-563-115-21	o	CONTACT, AWG24-28
	1-563-122-11	o	HOUSING, 16P
CN17M(to MB-205 board)			
	1-942-241-11	o	HARNESS (CHU)
	1-560-163-00	s	PLUG, RF
CN18M(to MB-205 board)			
	1-942-241-11	o	HARNESS (CHU)
	1-560-163-00	s	PLUG, RF
CN19M(to MB-205 board)			
	1-942-241-11	o	HARNESS (CHU)
	1-560-163-00	s	PLUG, RF
CN31M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN32M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN33M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN34M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN35M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN36M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN37M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN41M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN42M(to MB-205 board)			
	1-942-241-11	o	HARNESS (CHU)
	1-560-163-00	s	PLUG, RF
CN43M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN44M(to MB-205 BOARD)			
	1-560-163-00	s	PLUG, RF
CN50F(to MB-205 BOARD)			
	1-563-122-11	o	HOUSING, 16P
	1-563-115-21	o	CONTACT, AWG24-28
CN51F(to MB-205 board)			
	1-563-116-11	o	HOUSING, 4P
	1-563-115-21	o	CONTACT, AWG24-28
CN52F(to MB-205 board)			
	1-563-116-11	o	HOUSING, 4P
	1-563-115-21	o	CONTACT, AWG24-28
CN53F(to MB-205 board)			
	1-563-116-11	o	HOUSING, 4P
	1-563-115-21	o	CONTACT, AWG24-28
CN54F(to MB-205 board)			
	1-563-117-11	o	HOUSING, 6P
	1-563-115-21	o	CONTACT, AWG24-28
CN55F(to MB-205 board)			
	1-563-117-11	o	HOUSING, 6P
	1-563-115-21	o	CONTACT, AWG24-28
CN56F(to MB-205 board)			
	1-563-116-11	o	HOUSING, 4P
	1-563-115-21	o	CONTACT, AWG24-28
CN57F(to MB-205 board)			
	1-563-117-11	o	HOUSING, 6P
	1-563-115-21	o	CONTACT, AWG24-28
CN58F(to MB-205 board)			
	1-563-117-11	o	HOUSING, 6P
	1-563-115-21	o	CONTACT, AWG24-28
CN59F(to MB-205 board)			
	1-563-118-11	o	HOUSING, 8P
	1-563-115-21	o	CONTACT, AWG24-28
CN60F(to MB-205 board)			
	1-563-122-11	o	HOUSING, 16P
	1-563-115-21	o	CONTACT, AWG24-28
CN61F(to MB-205 board)			
	1-563-118-11	o	HOUSING, 8P
	1-563-115-21	o	CONTACT, AWG24-28

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN70F(to MB-205 BOARD)			
	1-562-287-11	o	HOUSING, 6P
	1-562-210-11	o	CONTACT, AWG22-18
CN71F(to MB-205 BOARD)			
	1-562-287-11	o	HOUSING, 6P
	1-562-210-11	o	CONTACT, AWG22-18
CN72F(to MB-205 BOARD)			
	1-562-285-11	o	HOUSING, 4P
	1-562-210-11	o	CONTACT, AWG22-18
CN73F(to MB-205 BOARD)			
	1-562-285-11	o	HOUSING, 4P
	1-562-210-11	o	CONTACT, AWG22-18
CN74F(to MB-205 BOARD)			
	1-562-285-11	o	HOUSING, 4P
	1-562-210-11	o	CONTACT, AWG22-18
CN310M(to MB-205 BOARD)			
	1-561-889-00	o	HOUSING, 16P
	1-564-774-11	o	CONTACT, AWG22-24
CN310M(to MB-205 BOARD)			
	1-561-889-00	o	HOUSING, 16P
	1-566-493-21	o	CONTACT, AWG18-22
CN400F(to CAMERA)			
	1-561-889-00	o	HOUSING, 16P
	1-560-767-00	o	CONTACT, AWG22-24
CN500F(to LINK CONNECTOR)			
	1-508-840-11	o	HOUSING, 9P
	1-535-072-00	o	CONTACT, AWG18-24
CN510M(to LINK CONNECTOR)			
	1-508-839-11	o	HOUSING, 9P
CN520F(to FAN MOTOR)			
	1-561-515-00	o	HOUSING, 3P
	1-560-372-00	o	CONTACT, AWG22-28
CN530F(to FAN MOTOR)			
	1-561-515-00	o	HOUSING, 3P
	1-560-372-00	o	CONTACT, AWG22-28
CN200	1-564-968-11	s	CONNECTOR, 16P, FEMALE "RCP"
CN210	1-563-815-21	s	CONNECTOR, D-SUB 9P, FEMALE "EXT IN
CN220	1-563-815-21	o	CONNECTOR, D-SUB 9P, FEMALE "CCU"
CN230	1-563-816-11	s	CONNECTOR, D-SUB 15P, FEMALE "WF OUT"
CN240	1-561-847-31	s	CONNECTOR, 7P, FEMALE "PIC MONI TALLY"
CN250	1-564-971-11	o	CONNECTOR, 19P, MALE "INCOM/TALLY/PGM"
CN260	1-509-176-31	s	CONNECTOR, 3P, MALE "LINE OUT"
CN270	1-509-184-31	s	CONNECTOR, 3P, FEMALE "LINE IN"
CN300	1-936-368-11	o	HARNESS (CONT) "CONTROL UNIT"
CN310M	1-556-357-11	s	CONNECTOR, D-SUB 37P, MALE "POWER"
CN310F	1-563-818-11	s	CONNECTOR, D-SUB 37P, FEMALE "POWER"
CN400	1-562-788-11	o	CONNECTOR,ROUND 11P, FEMALE "CAMERA
FB101	1-543-608-11	s	CORE, FERRITE

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
FB102	1-543-608-11	s	CORE, FERRITE
FB103	1-543-608-11	s	CORE, FERRITE
FB104	1-543-609-11	s	CORE, FERRITE
FB201	1-543-609-11	s	CORE, FERRITE
FB202	1-543-609-11	s	CORE, FERRITE
M101	1-541-611-11	s	MOTOR, FAN, DC
M102	1-541-611-11	s	MOTOR, FAN, DC

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
	A-7405-094-A	o	ANGLE (5U) ASSY, RACK
	A-7513-811-A	o	MOUNTED CIRCUIT BOARD, EX-187
⚠	1-506-411-00	s	ADAPTOR, AC PLUG 3P-2P
	1-506-767-11	s	CONNECTOR, ROUND 19P, FEMALE
⚠	1-551-812-00	s	CORD, POWER
	1-556-664-00	s	CABLE, INTERFACE
⚠	1-556-760-11	s	CORD, POWER (3 CORE)
	1-574-531-11	s	CABLE,D-SUB(WF CABLE)(15 CORE)
	1-575-107-11	s	CABLE, TALLY
	2-297-913-00	s	WASHER (DIA.5), ORNAMENTAL
	2-990-242-01	o	HOLDER (B), PLUG
	7-682-277-04	s	SCREW +RK 5X14
	7-682-561-04	s	SCREW +B 4X8

Please see pages D-9 to D-13 for the part numbers of capacitors and resistors that are not listed in the parts list.

SECTION E
CHANGED PARTS

NOTE: The numbers identified by making with) are matching with each serial numbers.

901) Serial No. 10201 and higher
904) Serial No. 10301 and higher

AD-39 BOARD

OLD)	IC105	8-752-011-62	s	IC CX20116A
904)	IC105	8-752-011-60	s	IC CX20116
OLD)	IC205	8-752-011-62	s	IC CX20116A
904)	IC205	8-752-011-60	s	IC CX20116
OLD)	IC305	8-752-011-62	s	IC CX20116A
904)	IC305	8-752-011-60	s	IC CX20116
OLD)	IC413	8-759-200-99	s	IC TC4051BF
904)	IC413	8-759-009-05	s	IC MC14051BF
OLD)	IC414	8-759-200-99	s	IC TC4051BF
904)	IC414	8-759-009-05	s	IC MC14051BF
OLD)	IC418	8-759-208-11	s	IC TC4053BFHB
904)	IC418	8-759-009-07	s	IC MC14053BF
OLD)	IC424	8-759-205-16	s	IC TC74HC161F
904)	IC424	8-759-926-21	s	IC SN74HC161NS
OLD)	IC436	8-759-204-96	s	IC TC74HC04F
904)	IC436	8-759-925-74	s	IC SN74HC04NS

DA-29 BOARD

OLD)	RV50	1-228-459-00	s	METAL 10K
904)	RV50	1-228-461-00	s	METAL 50K
OLD)	RV150	1-228-459-00	s	METAL 10K
904)	RV150	1-228-461-00	s	METAL 50K
OLD)	RV250	1-228-459-00	s	METAL 10K
904)	RV250	1-228-461-00	s	METAL 50K

DT-18 BOARD

OLD)	CNI9	NOT IN USE.		
904)	CNI9	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI10	NOT IN USE.		
904)	CNI10	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI11	NOT IN USE.		
904)	CNI11	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI12	NOT IN USE.		
904)	CNI12	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI24	NOT IN USE.		
904)	CNI24	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI25	NOT IN USE.		
904)	CNI25	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI26	NOT IN USE.		
904)	CNI26	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI27	NOT IN USE.		
904)	CNI27	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI39	NOT IN USE.		
904)	CNI39	1-526-658-21	o	SOCKET, IC (DP) 24P

(DT-18 BOARD)

OLD)	CNI40	NOT IN USE.		
904)	CNI40	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI41	NOT IN USE.		
904)	CNI41	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI42	NOT IN USE.		
904)	CNI42	1-526-658-21	o	SOCKET, IC (DP) 24P

DT-19 BOARD

OLD)	CNI30	NOT IN USE.		
904)	CNI30	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI31	NOT IN USE.		
904)	CNI31	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI32	NOT IN USE.		
904)	CNI32	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI81	NOT IN USE.		
904)	CNI81	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI82	NOT IN USE.		
904)	CNI82	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI83	NOT IN USE.		
904)	CNI83	1-526-658-21	o	SOCKET, IC (DP) 24P
OLD)	CNI84	NOT IN USE.		
904)	CNI84	1-526-658-21	o	SOCKET, IC (DP) 24P

IF-212 BOARD

OLD)	CNI73	NOT IN USE.		
904)	CNI73	1-526-656-00	o	SOCKET, IC (DP) 20P
OLD)	IC20	8-759-204-96	s	IC TC74HC04F
904)	IC20	8-759-925-74	s	IC SN74HC04NS
OLD)	IC22	8-759-204-98	s	IC TC74HC08F
904)	IC22	8-759-803-70	s	IC SN74HC08NS
OLD)	IC23	8-759-204-96	s	IC TC74HC04F
904)	IC23	8-759-925-74	s	IC SN74HC04NS
OLD)	IC52	8-759-204-96	s	IC TC74HC04F
904)	IC52	8-759-925-74	s	IC SN74HC04NS
OLD)	IC81	8-759-204-98	s	IC TC74HC08F
904)	IC81	8-759-803-70	s	IC SN74HC08NS
OLD)	IC83	8-759-204-96	s	IC TC74HC04F
904)	IC83	8-759-925-74	s	IC SN74HC04NS
OLD)	IC202	8-759-204-96	s	IC TC74HC04F
904)	IC202	8-759-925-74	s	IC SN74HC04NS

IV-18 BOARD

OLD)	C705	1-163-038-00	s CERAMIC CHIP 0.1MF 25V
904)	C705	1-162-638-11	s CERAMIC CHIP 1 16V
OLD)	C724	1-163-038-00	s CERAMIC CHIP 0.1MF 25V
904)	C724	1-162-638-11	s CERAMIC CHIP 1 16V
OLD)	C755	1-163-038-00	s CERAMIC CHIP 0.1MF 25V
904)	C755	1-162-638-11	s CERAMIC CHIP 1 16V
OLD)	IC905	8-759-200-77	s IC TC4028BF
904)	IC905	8-759-008-95	s IC MC14028BF
OLD)	R932	NOT IN USE.	
904)	R932	1-216-021-00	s METAL CHIP 68 5% 1/10W

MS-23 BOARD

OLD)	C351	1-163-038-00	s CERAMIC CHIP 0.1MF 25V
904)	C351	1-135-155-21	s TANTALUM CHIP 4.7MF 20% 10V
OLD)	CNI10	NOT IN USE.	
904)	CNI10	1-526-654-00	o SOCKET, IC (DP) 16P
OLD)	CNI11	NOT IN USE.	
904)	CNI11	1-526-654-00	o SOCKET, IC (DP) 16P
OLD)	CNI14	NOT IN USE.	
904)	CNI14	1-526-654-00	o SOCKET, IC (DP) 16P
OLD)	CNI15	NOT IN USE.	
904)	CNI15	1-526-654-00	o SOCKET, IC (DP) 16P
OLD)	COP1	NOT IN USE.	
904)	COP1	1-564-948-21	o PIN, CONNECTOR 3P
OLD)	COP2	NOT IN USE.	
904)	COP2	1-564-948-21	o PIN, CONNECTOR 3P
OLD)	COP3	NOT IN USE.	
904)	COP3	1-564-948-21	o PIN, CONNECTOR 3P
OLD)	D319	8-719-105-32	s DIODE RD2.7M-B2
904)	D319	DELETED.	
OLD)	D320	8-719-105-32	s DIODE RD2.7M-B2
904)	D320	DELETED.	
OLD)	R398	1-216-046-00	s METAL CHIP 750 5% 1/10W
904)	R398	DELETED.	

PR-114 BOARD

OLD)	IC12	8-759-200-84	s IC TC4081BF
904)	IC12	8-759-009-19	IC MC14081BF
OLD)	IC401	8-759-202-38	s IC TC4528BF
904)	IC401	8-759-009-46	s IC MC14528BF
OLD)	Q243	8-729-122-63	s TRANSISTOR 2SA1226
904)	Q243	8-729-200-86	s TRANSISTOR 2SC2714-O
OLD)	R5	1-216-669-11	s METAL CHIP 5.6K 0.50% 1/10W
904)	R5	1-216-667-11	s METAL CHIP 4.7K 0.50% 1/10W
OLD)	R6	1-216-669-11	s METAL CHIP 5.6K 0.50% 1/10W
904)	R6	1-216-637-11	s METAL CHIP 270 0.50% 1/10W
OLD)	R125	1-216-657-11	s METAL 1.8K 0.50% 1/10W
901)	R125	1-216-649-11	s METAL CHIP 820 0.50% 1/10W

(PR-114 BOARD)

OLD)	R136	1-216-067-00	s METAL CHIP 5.6K 5% 1/10W
901)	R136	1-216-061-00	s METAL CHIP 3.3K 5% 1/10W
OLD)	R140	1-216-025-00	s METAL CHIP 100 5% 1/10W
901)	R140	1-216-021-00	s METAL CHIP 68 5% 1/10W
OLD)	R156	1-216-057-00	s METAL CHIP 2.2K 5% 1/10W
901)	R156	1-216-658-11	s METAL CHIP 2K 0.50% 1/10W
OLD)	R175	1-216-046-00	s METAL CHIP 750 5% 1/10W
904)	R175	1-216-648-11	s METAL CHIP 750 0.50% 1/10W
OLD)	R177	1-216-099-00	s METAL CHIP 120K 5% 1/10W
904)	R177	1-216-699-11	s METAL CHIP 100K 0.50% 1/10W
OLD)	R229	1-216-067-00	s METAL CHIP 5.6K 5% 1/10W
904)	R229	1-216-059-00	s METAL CHIP 2.7K 5% 1/10W
OLD)	R247	1-216-629-11	s METAL 120 0.50% 1/10W
901)	R247	1-216-624-11	s METAL CHIP 75 0.50% 1/10W
OLD)	R251	1-216-640-11	s METAL 360 0.50% 1/10W
901)	R251	1-216-637-11	s METAL CHIP 270 0.50% 1/10W
OLD)	R255	1-216-640-11	s METAL 360 0.50% 1/10W
901)	R255	1-216-637-11	s METAL CHIP 270 0.50% 1/10W
OLD)	R272	NOT IN USE.	
901)	R272	1-216-037-00	s METAL CHIP 330 5% 1/10W
OLD)	R305	1-216-662-11	s METAL 3K 0.50% 1/10W
901)	R305	1-216-651-11	s METAL CHIP 1K 0.50% 1/10W
OLD)	R306	1-216-662-11	s METAL 3K 0.50% 1/10W
901)	R306	1-216-651-11	s METAL CHIP 1K 0.50% 1/10W
OLD)	R328	1-216-659-11	s METAL 2.2K 0.50% 1/10W
901)	R328	1-216-656-11	s METAL CHIP 1.6K 0.5% 1/10W
OLD)	R362	1-216-057-00	s METAL CHIP 2.2K 5% 1/10W
901)	R362	1-216-658-11	s METAL CHIP 2K 0.50% 1/10W
OLD)	R383	1-216-099-00	s METAL CHIP 120K 5% 1/10W
904)	R383	1-216-699-11	s METAL CHIP 100K 0.50% 1/10W
OLD)	R430	1-216-659-11	s METAL 2.2K 0.50% 1/10W
901)	R430	1-216-677-11	s METAL CHIP 12K 0.50% 1/10W
OLD)	R435	1-216-067-00	s METAL CHIP 5.6K 5% 1/10W
904)	R435	1-216-059-00	s METAL CHIP 2.7K 5% 1/10W
OLD)	R436	1-216-631-11	s METAL CHIP 150 0.50% 1/10W
901)	R436	1-216-660-11	s METAL CHIP 2.4K 0.50% 1/10W
OLD)	R453	1-216-629-11	s METAL 120 0.50% 1/10W
901)	R453	1-216-624-11	s METAL CHIP 75 0.50% 1/10W
OLD)	R457	1-216-640-11	s METAL 360 0.50% 1/10W
901)	R457	1-216-637-11	s METAL CHIP 270 0.50% 1/10W
OLD)	R461	1-216-640-11	s METAL 360 0.50% 1/10W
901)	R461	1-216-637-11	s METAL CHIP 270 0.50% 1/10W
OLD)	R478	NOT IN USE.	
901)	R478	1-216-037-00	s METAL CHIP 330 5% 1/10W
OLD)	R492	1-216-073-00	s METAL CHIP 10K 5% 1/10W
904)	R492	1-216-675-11	s METAL CHIP 10K 0.50% 1/10W
OLD)	R493	1-216-659-11	s METAL CHIP 2.2K 0.50% 1/10W
904)	R493	1-216-675-11	s METAL CHIP 10K 0.50% 1/10W
OLD)	R495	1-216-025-00	s METAL CHIP 100 5% 1/10W
904)	R495	1-216-085-00	s METAL CHIP 33K 5% 1/10W
OLD)	R496	1-216-667-11	s METAL CHIP 4.7K 0.50% 1/10W
904)	R496	1-216-677-11	s METAL CHIP 12K 0.50% 1/10W
OLD)	R497	1-216-061-00	s METAL CHIP 3.3K 5% 1/10W
904)	R497	1-216-675-11	s METAL CHIP 10K 0.50% 1/10W
OLD)	R498	1-216-673-11	s METAL CHIP 8.2K 0.50% 1/10W
904)	R498	1-216-658-11	s METAL CHIP 2K 0.50% 1/10W
OLD)	R499	NOT IN USE.	
904)	R499	1-216-675-11	s METAL CHIP 10K 0.50% 1/10W
OLD)	R500	1-216-659-11	s METAL CHIP 2.2K 0.50% 1/10W
904)	R500	1-216-675-11	s METAL CHIP 10K 0.50% 1/10W

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OLD)	R501	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
904)	R501	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R502	1-216-049-00	s	METAL CHIP 1K 5% 1/10W
904)	R502	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
OLD)	R503	1-247-903-00	s	CARBON 1M 5% 1/4W
904)	R503	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
OLD)	R504	1-216-065-00	s	METAL CHIP 4.7K 5% 1/10W
904)	R504	1-216-021-00	s	METAL CHIP 68 5% 1/10W
OLD)	R505	1-216-025-00	s	METAL CHIP 100 5% 1/10W
904)	R505	1-216-021-00	s	METAL CHIP 68 5% 1/10W
OLD)	R506	1-216-059-00	s	METAL CHIP 2.7K 5% 1/10W
904)	R506	1-216-021-00	s	METAL CHIP 68 5% 1/10W
OLD)	R507	1-216-105-00	s	METAL CHIP 220K 5% 1/10W
904)	R507	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R508	1-216-109-00	s	METAL CHIP 330K 5% 1/10W
904)	R508	1-216-073-00	s	METAL CHIP 10K 5% 1/10W
OLD)	R509	1-216-025-00	s	METAL CHIP 100 5% 1/10W
904)	R509	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
OLD)	R510	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
904)	R510	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
OLD)	R511	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
904)	R511	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
OLD)	R512	1-216-021-00	s	METAL CHIP 68 5% 1/10W
904)	R512	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
OLD)	R513	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
904)	R513	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R514	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
904)	R514	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R515	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
904)	R515	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R516	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
904)	R516	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R517	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
904)	R517	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
OLD)	R518	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
904)	R518	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R519	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
904)	R519	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
OLD)	R520	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
904)	R520	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R521	1-216-073-00	s	METAL CHIP 10K 5% 1/10W
904)	R521	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
OLD)	R522	1-216-067-00	s	METAL CHIP 5.6K 5% 1/10W
904)	R522	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R523	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R523	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
OLD)	R524	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R524	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
OLD)	R525	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R525	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
OLD)	R526	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R526	1-216-067-00	s	METAL CHIP 5.6K 5% 1/10W
OLD)	R527	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
904)	R527	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R528	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
904)	R528	1-216-037-00	s	METAL CHIP 330 5% 1/10W
OLD)	R529	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
904)	R529	1-216-037-00	s	METAL CHIP 330 5% 1/10W

(PR-114 BOARD)

OLD)	R530	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R530	1-216-065-00	s	METAL CHIP 4.7K 5% 1/10W
OLD)	R531	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
904)	R531	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
OLD)	R532	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
904)	R532	1-216-673-11	s	METAL CHIP 8.2K 0.50% 1/10W
OLD)	R533	1-216-049-00	s	METAL CHIP 1K 5% 1/10W
904)	R533	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
OLD)	R534	NOT IN USE.		
904)	R534	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
OLD)	R535	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
904)	R535	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
OLD)	R536	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
904)	R536	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R537	NOT IN USE.		
904)	R537	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R538	NOT IN USE.		
904)	R538	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
OLD)	R539	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
904)	R539	1-216-021-00	s	METAL CHIP 68 5% 1/10W
OLD)	R540	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
904)	R540	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
OLD)	R541	1-216-101-00	s	METAL CHIP 150K 5% 1/10W
904)	R541	1-216-065-00	s	METAL CHIP 4.7K 5% 1/10W
OLD)	R542	1-216-097-00	s	METAL CHIP 100K 5% 1/10W
904)	R542	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
OLD)	R543	1-216-073-00	s	METAL CHIP 10K 5% 1/10W
904)	R543	1-216-067-00	s	METAL CHIP 5.6K 5% 1/10W
OLD)	R544	1-216-025-00	s	METAL CHIP 100 5% 1/10W
904)	R544	1-216-067-00	s	METAL CHIP 5.6K 5% 1/10W
OLD)	R545	1-216-021-00	s	METAL CHIP 68 5% 1/10W
904)	R545	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R564	1-216-057-00	s	METAL CHIP 2.2K 5% 1/10W
901)	R564	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
OLD)	R581	1-216-046-00	s	METAL CHIP 750 5% 1/10W
904)	R581	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
OLD)	R583	1-216-046-00	s	METAL CHIP 750 5% 1/10W
904)	R583	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
OLD)	R585	1-216-099-00	s	METAL CHIP 120K 5% 1/10W
904)	R585	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
OLD)	R605	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
904)	R605	1-216-295-00	s	METAL CHIP 0 5% 1/10W
OLD)	R606	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
904)	R606	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
OLD)	R607	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
904)	R607	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R608	1-216-097-00	s	METAL CHIP 100K 5% 1/10W
904)	R608	1-216-025-00	s	METAL CHIP 100 5% 1/10W
OLD)	R636	1-216-067-00	s	METAL CHIP 5.6K 5% 1/10W
904)	R636	1-216-059-00	s	METAL CHIP 2.7K 5% 1/10W
OLD)	R655	1-216-620-11	s	METAL CHIP 51 0.50% 1/10W
901)	R655	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
OLD)	R659	1-216-640-11	s	METAL 360 0.50% 1/10W
901)	R659	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
OLD)	R663	1-216-640-11	s	METAL 360 0.50% 1/10W
901)	R663	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
OLD)	R680	NOT IN USE.		
901)	R680	1-216-037-00	s	METAL CHIP 330 5% 1/10W

OLD)	R970	1-215-827-11	s	METAL 75K 1% 1/8W
901)	R970	1-216-696-11	s	METAL CHIP 75K 0.50% 1/10W
OLD)	R971	NOT IN USE.		
901)	R971	1-216-295-00	s	METAL CHIP 0 5% 1/10W
OLD)	R972	NOT IN USE.		
901)	R972	1-214-567-00	s	METAL 2.7K 1% 1/8W
OLD)	R973	NOT IN USE.		
901)	R973	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
OLD)	RB1	1-231-533-00	s	RESISTOR BLOCK 10Kx4
904)	RB1	DELETED.		
OLD)	RB101	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB101	DELETED.		
OLD)	RB102	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB102	DELETED.		
OLD)	RB103	1-235-972-11	s	BLOCK 100
904)	RB103	DELETED.		
OLD)	RB104	1-235-972-11	s	BLOCK 100
904)	RB104	DELETED.		
OLD)	RB201	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB201	DELETED.		
OLD)	RB202	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB202	DELETED.		
OLD)	RB203	1-235-972-11	s	BLOCK 100
904)	RB203	DELETED.		
OLD)	RB204	1-235-972-11	s	BLOCK 100
904)	RB204	DELETED.		
OLD)	RB301	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB301	DELETED.		
OLD)	RB302	1-231-485-11	s	RESISTOR BLOCK 100x4
904)	RB302	DELETED.		
OLD)	RB303	1-235-972-11	s	BLOCK 100
904)	RB303	DELETED.		
OLD)	RB304	1-235-972-11	s	BLOCK 100
904)	RB304	DELETED.		
OLD)	RB401	1-231-411-00	s	RESISTOR BLOCK 100Kx8
904)	RB401	DELETED.		
OLD)	RB402	1-231-411-00	s	RESISTOR BLOCK 100Kx8
904)	RB402	DELETED.		
OLD)	RV5	NOT IN USE.		
901)	RV5	1-228-462-00	s	METAL 100K
OLD)	RV101	1-228-454-00	s	METAL 200
904)	RV101	1-228-457-00	s	METAL 2K
OLD)	RV102	1-228-455-00	s	METAL 500
904)	RV102	1-228-454-00	s	METAL 200
OLD)	RV103	1-228-456-00	s	METAL 1K
904)	RV103	1-228-476-00	s	METAL 50K
OLD)	RV114	NOT IN USE.		
901)	RV114	1-228-455-00	s	METAL 500
OLD)	RV201	1-228-454-00	s	METAL 200
904)	RV201	1-228-457-00	s	METAL 2K
OLD)	RV202	1-228-455-00	s	METAL 500
904)	RV202	1-228-454-00	s	METAL 200
OLD)	RV214	NOT IN USE.		
901)	RV214	1-228-455-00	s	METAL 500
OLD)	RV301	1-228-454-00	s	METAL 200
904)	RV301	1-228-457-00	s	METAL 2K
OLD)	RV302	1-228-455-00	s	METAL 500
904)	RV302	1-228-454-00	s	METAL 200

OLD)	RV314	NOT IN USE.		
901)	RV314	1-228-455-00	s	METAL 500
OLD)	RV401	1-228-455-00	s	METAL 500
904)	RV401	DELETED.		
OLD)	RV402	1-228-456-00	s	METAL 1K
904)	RV402	DELETED.		
OLD)	RV403	1-228-455-00	s	METAL 500
904)	RV403	DELETED.		
OLD)	RV404	1-228-456-00	s	METAL 1K
904)	RV404	DELETED.		
OLD)	RV406	1-228-455-00	s	METAL 500
904)	RV406	DELETED.		
OLD)	S100	NOT IN USE.		
904)	S100	1-570-610-11	s	TOGGLE
OLD)	S200	NOT IN USE.		
904)	S200	1-570-610-11	s	TOGGLE
OLD)	S201	NOT IN USE.		
904)	S201	1-570-373-12	s	SLIDE
OLD)	S300	NOT IN USE.		
904)	S300	1-570-373-12	s	SLIDE
OLD)	S301	NOT IN USE.		
904)	S301	1-570-621-11	s	DIP

SG-140 BOARD

OLD)	C203	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V
904)	C203	1-161-485-00	s	CERAMIC 0.1MF 50V
OLD)	C204	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V
904)	C204	1-161-485-00	s	CERAMIC 0.1MF 50V
OLD)	C223	1-126-516-11	s	ELECT 120MF 20% 16V
904)	C223	1-126-103-11	s	ELECT 470uF 20% 16V
OLD)	C230	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V
904)	C230	1-161-897-11	s	CERAMIC 0.33MF 50V
OLD)	C231	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V
904)	C231	1-161-485-00	s	CERAMIC 0.1MF 50V
OLD)	C253	1-124-120-11	s	ELECT 220MF 20% 25V
904)	C253	1-124-621-11	s	ELECT 3300uF 20% 6.3VW
OLD)	C255	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V
904)	C255	1-161-900-11	s	CERAMIC 1MF 50V
OLD)	C275	1-124-120-11	s	ELECT 220MF 20% 25V
904)	C275	1-124-621-11	s	ELECT 3300uF 20% 6.3VW
OLD)	C276	1-124-120-11	s	ELECT 220MF 20% 25V
904)	C276	1-124-621-11	s	ELECT 3300uF 20% 6.3VW
OLD)	C624	1-109-637-00	s	MICA 0.001uF 2% 500V
904)	C624	1-109-561-00	s	MICA 0.001uF 5% 100V
OLD)	C710	NOT IN USE.		
904)	C710	1-131-367-00	s	TANTALUM 22MF 10% 16V
OLD)	CNI12	NOT IN USE.		
904)	CNI12	1-526-816-21	o	SOCKET, IC (DP) 24P
OLD)	CNI13	NOT IN USE.		
904)	CNI13	1-526-816-21	o	SOCKET, IC (DP) 24P
OLD)	CNI14	NOT IN USE.		
904)	CNI14	1-526-816-21	o	SOCKET, IC (DP) 24P
OLD)	CNI16	NOT IN USE.		
904)	CNI16	1-526-816-21	o	SOCKET, IC (DP) 24P

(SG-140 BOARD)

OLD)	D304	8-719-812-41	s	DIODE TLR124
904)	D304	DELETED.		
OLD)	IC20	8-759-204-94	s	IC TC74HC00F
904)	IC20	8-759-927-46	s	IC SN74HC00NS
OLD)	IC31	8-759-208-11	s	IC TC4053BFHB
904)	IC31	8-759-009-07	s	IC MC14053BF
OLD)	IC33	8-759-204-94	s	IC TC74HC00F
904)	IC33	8-759-927-46	s	IC SN74HC00NS
OLD)	IC106	8-759-208-11	s	IC TC4053BFHB
904)	IC106	8-759-009-07	s	IC MC14053BF
OLD)	IC107	8-759-208-11	s	IC TC4053BFHB
904)	IC107	8-759-009-07	s	IC MC14053BF
OLD)	IC108	8-759-208-11	s	IC TC4053BFHB
904)	IC108	8-759-009-07	s	IC MC14053BF
OLD)	IC111	8-759-208-11	s	IC TC4053BFHB
904)	IC111	8-759-009-07	s	IC MC14053BF
OLD)	IC112	8-759-208-11	s	IC TC4053BFHB
904)	IC112	8-759-009-07	s	IC MC14053BF
OLD)	IC302	8-759-205-21	s	IC TC74HC221F
904)	IC302	8-759-803-77	s	IC TC74HC221F
OLD)	IC303	8-759-205-21	s	IC TC74HC221F
904)	IC303	8-759-803-77	s	IC TC74HC221F
OLD)	IC307	8-759-204-94	s	IC TC74HC00F
904)	IC307	8-759-927-46	s	IC SN74HC00NS
OLD)	R515	1-216-097-00	s	METAL CHIP 100K 5% 1/10W
904)	R515	DELETED.		
OLD)	R516	1-216-037-00	s	METAL CHIP 330 5% 1/10W
904)	R516	DELETED.		
OLD)	R666	1-216-097-00	s	METAL CHIP 100K 5% 1/10W
904)	R666	DELETED.		
OLD)	S3	1-570-598-11	s	SWITCH, DIP
904)	S3	DELETED.		
OLD)	S4	1-570-623-11	s	SWITCH, DIP
904)	S4	DELETED.		
OLD)	S5	1-553-542-00	s	SWITCH, PUSH
904)	S5	DELETED.		
OLD)	S6	1-554-080-00	s	SWITCH, ROTARY
904)	S6	DELETED.		
OLD)	S7	1-554-080-00	s	SWITCH, ROTARY
904)	S7	DELETED.		

FRAME

OLD)	1pc		NOT IN USE.		
904)	1pc	⚠	1-552-060-21	s	SWITCH, ROCKER(AC POWER)
OLD)			1-535-070-11	o	CONTACT, AWG18-24
904)			DELETED.		

904) Serial No. 10301 and higher
908) Serial No. 10401 and higher

AD-39 BOARD

OLD)	FL101	1-236-235-11	s	FILTER, LOW PASS
908)	FL101	1-236-234-12	s	FILTER, LOW PASS
OLD)	FL201	1-236-235-11	s	FILTER, LOW PASS
908)	FL201	1-236-234-12	s	FILTER, LOW PASS
OLD)	FL301	1-236-235-11	s	FILTER, LOW PASS
908)	FL301	1-236-234-12	s	FILTER, LOW PASS

OLD)	IC7	8-759-205-18	s	IC TC74HC175F
904)	IC7	8-759-926-29	s	IC SN74HC175NS
OLD)	IC8	8-759-205-32	s	IC TC74HC374F
904)	IC8	8-759-926-67	s	IC SN74HC374NS
OLD)	IC418	8-759-208-11	s	IC TC4053BFHB
908)	IC418	8-759-009-07	s	IC MC14053BF

OLD)	IC425	8-759-205-10	s	IC TC74HC139F
904)	IC425	8-759-926-12	s	IC SN74HC139NS
OLD)	IC426	8-759-230-80	s	IC TC74HC148F
904)	IC426	8-759-926-14	s	IC SN74HC148NS
OLD)	IC435	8-759-205-05	s	IC TC74HC32F
904)	IC435	8-759-925-85	s	IC SN74HC32NS

DA-29 BOARD

OLD)	FL1	1-236-234-11	s	FILTER, LOW PASS
908)	FL1	1-236-234-12	s	FILTER, LOW PASS
OLD)	FL101	1-236-234-11	s	FILTER, LOW PASS
908)	FL101	1-236-234-12	s	FILTER, LOW PASS
OLD)	FL201	1-236-234-11	s	FILTER, LOW PASS
908)	FL201	1-236-234-12	s	FILTER, LOW PASS

OLD)	IC405	8-759-202-55	s	IC TC74HC244P
908)	IC405	8-759-916-71	s	IC SN74HC244N
OLD)	IC406	8-759-203-36	s	IC TC74HC374P
908)	IC406	8-759-916-96	s	IC SN74HC374N
OLD)	IC407	8-759-203-36	s	IC TC74HC374P
908)	IC407	8-759-916-96	s	IC SN74HC374N

OLD)	R58	1-216-069-00	s	METAL CHIP 6.8K 5% 1/10W
904)	R58	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
OLD)	R158	1-216-069-00	s	METAL CHIP 6.8K 5% 1/10W
904)	R158	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W
OLD)	R258	1-216-069-00	s	METAL CHIP 6.8K 5% 1/10W
904)	R258	1-216-657-11	s	METAL CHIP 1.8K 0.5% 1/10W

DT-19 BOARD

OLD)	IC17	8-759-740-34	s	IC MBM27C128-20TV/DVT
908)	IC17	8-759-731-45	s	IC MBM27C128-20TV/DTV1
OLD)	IC32	8-759-740-40	s	IC WS57C49B-35D/DHG
908)	IC32	8-759-731-46	s	IC WSI57C49B-35D/DHG2

(DT-19 BOARD)

OLD)	IC81	8-759-740-42	s	IC WS57C49B-35D/DTL
908)	IC81	8-759-731-47	s	IC WSI57C49B-35D/DTEN4

OLD)	IC82	8-759-740-42	s	IC WS57C49B-35D/DTL
908)	IC82	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
OLD)	IC83	8-759-740-42	s	IC WS57C49B-35D/DTL
908)	IC83	8-759-731-47	s	IC WSI57C49B-35D/DTEN4
OLD)	IC84	8-759-740-42	s	IC WS57C49B-35D/DTL
908)	IC84	8-759-731-47	s	IC WSI57C49B-35D/DTEN4

OLD)	S8	1-570-613-11	s	SWITCH, TOGGLE
904)	S8	1-570-612-11	s	SWITCH, TOGGLE

FRAME BOARD

OLD)	FB104	NOT IN USE.		
904)	FB104	1-543-609-11	s	CORE, FERRITE

IF-212 BOARD

OLD)	C1	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C1	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C3	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C3	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C11	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C11	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V

OLD)	C15	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C15	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C17	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C17	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C18	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C18	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V

OLD)	C21	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C21	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C24	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C24	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C71	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C71	1-135-092-21	s	TANTALUM CHIP 10MF 10% 16V

OLD)	C74	1-135-159-21	s	TANTALUM CHIP 10MF 10% 20V
908)	C74	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V
OLD)	C201	1-163-037-11	s	CERAMIC CHIP 0.022MF 10% 25V
908)	C201	DELETED.		
OLD)	C215	NOT IN USE.		
908)	C215	1-135-092-21	s	TANTALUM CHIP 3.3MF 10% 16V

OLD)	C218	NOT IN USE.		
904)	C218	1-163-038-00	s	CERAMIC CHIP 0.1MF 25V

(IF-212 BOARD)

OLD)	C219	NOT IN USE.	
908)	C219	1-135-092-21	s TANTALUM CHIP 3.3MF 10% 16V
OLD)	D10	8-719-120-02	s DIODE PS2002B
904)	D10	8-719-156-79	s DIODE PS2703-1
OLD)	D12	8-719-120-02	s DIODE PS2002B
904)	D12	8-719-156-79	s DIODE PS2703-1
OLD)	IC2	8-759-209-49	s IC TC74HC85F
904)	IC2	8-759-925-96	s IC SN74HC85NS
OLD)	IC3	8-759-205-09	s IC TC74HC138F
904)	IC3	8-759-926-11	s IC SN74HC138NS
OLD)	IC4	8-759-205-09	s IC TC74HC138F
904)	IC4	8-759-926-11	s IC SN74HC138NS
OLD)	IC5	8-759-205-09	s IC TC74HC138F
904)	IC5	8-759-926-11	s IC SN74HC138NS
OLD)	IC6	8-759-205-09	s IC TC74HC138F
904)	IC6	8-759-926-11	s IC SN74HC138NS
OLD)	IC7	8-759-205-09	s IC TC74HC138F
904)	IC7	8-759-926-11	s IC SN74HC138NS
OLD)	IC8	8-759-230-77	s IC TC74HC30F
904)	IC8	8-759-925-84	s IC SN74HC164NS
OLD)	IC9	8-759-209-62	s IC TC74HC164F
904)	IC9	8-759-926-24	s IC SN74HC164NS
OLD)	IC10	8-759-205-05	s IC TC74HC32F
904)	IC10	8-759-925-85	s IC SN74HC32NS
OLD)	IC11	8-759-230-81	s IC TC74HC126F
904)	IC11	8-759-926-06	s IC SN74HC126NS
OLD)	IC13	8-759-230-80	s IC TC74HC148F
904)	IC13	8-759-926-14	s IC SN74HC148NS
OLD)	IC14	8-759-205-01	s IC TC74HC20F
904)	IC14	8-759-925-81	s IC SN74HC20NS
OLD)	IC15	8-759-205-05	s IC TC74HC32F
904)	IC15	8-759-925-85	s IC SN74HC32NS
OLD)	IC16	8-759-230-82	s IC TC74HC125F
904)	IC16	8-759-926-05	s IC SN74HC125NS
OLD)	IC17	8-759-205-06	s IC TC74HC74F
904)	IC17	8-759-925-90	s IC SN74HC74NS
OLD)	IC21	8-759-925-85	s IC SN74HC32NS
908)	IC21	DELETED.	
OLD)	IC31	NOT IN USE.	
908)	IC31	8-759-733-53	s IC MBM27C256A-20TV/E1
OLD)	IC32	NOT IN USE.	
908)	IC32	8-759-733-54	s IC MBM27C256A-20TV/01
OLD)	IC33	NOT IN USE.	
908)	IC33	8-759-733-55	s IC MBM27C256A-20TV/E2
OLD)	IC34	NOT IN USE.	
908)	IC34	8-759-733-56	s IC MBM27C256A-20TV/02
OLD)	IC39	8-759-205-05	s IC TC74HC32F
904)	IC39	8-759-925-85	s IC SN74HC32NS
OLD)	IC42	8-759-205-31	s IC TC74HC373F
904)	IC42	8-759-926-66	s IC SN74HC373NS
OLD)	IC43	8-759-205-31	s IC TC74HC373F
904)	IC43	8-759-926-66	s IC SN74HC373NS
OLD)	IC44	8-759-209-82	s IC TC74HC245F
904)	IC44	8-759-926-49	s IC SN74HC245NS
OLD)	IC45	8-759-209-82	s IC TC74HC245F
904)	IC45	8-759-926-49	s IC SN74HC245NS
OLD)	IC47	8-759-205-31	s IC TC74HC373F
904)	IC47	8-759-926-66	s IC SN74HC373NS

(IF-212 BOARD)

OLD)	IC48	8-759-205-31	s IC TC74HC373F
904)	IC48	8-759-926-66	s IC SN74HC373NS
OLD)	IC49	8-759-209-82	s IC TC74HC245F
904)	IC49	8-759-926-49	s IC SN74HC245NS
OLD)	IC50	8-759-209-82	s IC TC74HC245F
904)	IC50	8-759-926-49	s IC SN74HC245NS
OLD)	IC52	8-759-204-96	s IC TC74HC04F
904)	IC52	8-759-925-74	s IC SN74HC04NS
OLD)	IC59	8-759-204-95	s IC TC74HC02F
904)	IC59	8-759-925-72	s IC SN74HC02NS
OLD)	IC63	8-759-205-23	s IC TC74HC244F
904)	IC63	8-759-926-48	s IC SN74HC244NS
OLD)	IC64	8-759-209-82	s IC TC74HC245F
904)	IC64	8-759-926-49	s IC SN74HC245NS
OLD)	IC65	8-759-205-23	s IC TC74HC244F
904)	IC65	8-759-926-48	s IC SN74HC244NS
OLD)	IC66	8-759-205-23	s IC TC74HC244F
904)	IC66	8-759-926-48	s IC SN74HC244NS
OLD)	IC67	8-759-205-23	s IC TC74HC244F
904)	IC67	8-759-926-48	s IC SN74HC244NS
OLD)	IC68	8-759-205-32	s IC TC74HC374F
904)	IC68	8-759-926-67	s IC SN74HC374NS
OLD)	IC69	8-759-205-23	s IC TC74HC244F
904)	IC69	8-759-926-48	s IC SN74HC244NS
OLD)	IC70	8-759-205-05	s IC TC74HC32F
904)	IC70	8-759-925-85	s IC SN74HC32NS
OLD)	IC75	8-759-209-82	s IC TC74HC245F
904)	IC75	8-759-926-49	s IC SN74HC245NS
OLD)	IC77	8-759-911-41	s IC TL431CP
904)	IC77	8-759-929-26	s IC TL431CPS
OLD)	IC80	8-759-205-06	s IC TC74HC74F
904)	IC80	8-759-925-90	s IC SN74HC74NS
OLD)	IC82	8-759-230-82	s IC TC74HC125F
904)	IC82	8-759-926-05	s IC SN74HC125NS
OLD)	IC87	8-759-205-05	s IC TC74HC32F
904)	IC87	8-759-925-85	s IC SN74HC32NS
OLD)	IC88	8-759-205-32	s IC TC74HC374F
904)	IC88	8-759-926-67	s IC SN74HC374NS
OLD)	IC103	8-759-230-80	s IC TC74HC148F
904)	IC103	8-759-926-14	s IC SN74HC148NS
OLD)	IC104	8-759-205-06	s IC TC74HC74F
904)	IC104	8-759-925-90	s IC SN74HC74NS
OLD)	IC201	8-759-204-99	s IC TC74HC10F
904)	IC201	8-759-925-78	s IC SN74HC10NS
OLD)	IC203	8-759-925-90	s IC SN74HC74NS
908)	IC203	DELETED.	
OLD)	IC204	8-759-925-90	s IC SN74HC74NS
908)	IC204	DELETED.	
OLD)	IC205	8-759-925-90	s IC SN74HC74NS
908)	IC205	DELETED.	
OLD)	IC206	8-759-230-80	s IC TC74HC148F
904)	IC206	8-759-926-14	s IC SN74HC148NS
OLD)	R14	1-216-667-11	s METAL CHIP 4.7K 0.5% 1/10W
904)	R14	1-216-047-00	s METAL CHIP 820 5% 1/10W
OLD)	R208	1-216-073-00	s METAL CHIP 10K 5% 1/10W
904)	R208	DELETED.	
OLD)	RB11	NOT IN USE.	
904)	RB11	1-231-410-00	s RESISTOR BLOCK 10KX8

(IF-212 BOARD)

904)	RB12	1-231-410-00 s RESISTOR BLOCK 10KX8
OLD)	RB12	NOT IN USE.
OLD)	RB13	NOT IN USE.
904)	RB13	1-231-410-00 s RESISTOR BLOCK 10KX8
OLD)	RB14	NOT IN USE.
904)	RB14	1-231-410-00 s RESISTOR BLOCK 10KX8
OLD)	RB15	NOT IN USE.
904)	RB15	1-231-410-00 s RESISTOR BLOCK 10KX8

IV-18 BOARD

OLD)	C715	1-135-155-21 s TANTALUM CHIP 4.7MF 10% 16V
904)	C715	1-135-091-00 s TANTALUM CHIP 1MF 10% 16V
OLD)	C919	1-162-638-11 s CERAMIC CHIP 1MF 16V
904)	C919	DELETED.
OLD)	C920	1-162-638-11 s CERAMIC CHIP 1MF 16V
904)	C920	DELETED.
OLD)	C921	1-162-638-11 s CERAMIC CHIP 1MF 16V
904)	C921	DELETED.
OLD)	C922	NOT IN USE.
904)	C922	1-162-638-11 s CERAMIC CHIP 1MF 16V
OLD)	C923	NOT IN USE.
904)	C923	1-162-638-11 s CERAMIC CHIP 1MF 16V
OLD)	C924	NOT IN USE.
904)	C924	1-162-638-11 s CERAMIC CHIP 1MF 16V
OLD)	R744	1-216-049-00 s METAL CHIP 1K 5% 1/10W
904)	R744	1-216-656-11 s METAL CHIP 1.6K 0.5% 1/10W

MS-23 BOARD

OLD)	C909	1-163-089-00 s CERAMIC CHIP 6PF +-0.25PF 50V
904)	C909	1-163-085-00 s CERAMIC CHIP 2PF +-0.25PF 50V
OLD)	IC609	8-759-202-94 s IC TC74HC154P
904)	IC609	8-759-916-49 s IC SN74HC154NT
OLD)	IC617	8-759-205-23 s IC TC74HC244F
904)	IC617	8-759-926-48 s IC SN74HC244NS
OLD)	IC618	8-759-210-00 s IC TC74HC365F
904)	IC618	8-759-926-62 s IC SN74HC365NS
OLD)	IC704	8-759-208-06 s IC TC4051BPHB
908)	IC704	8-759-981-51 s IC RC1496M
OLD)	R710	1-216-608-11 s METAL CHIP 16 0.5% 1/10W
904)	R710	1-216-611-11 s METAL CHIP 22 0.5% 1/10W
OLD)	R711	1-216-643-11 s METAL CHIP 470 0.5% 1/10W
904)	R711	1-216-642-11 s METAL CHIP 430 0.5% 1/10W
OLD)	R716	1-216-067-00 s METAL CHIP 5.6K 5% 1/10W
904)	R716	1-216-672-11 s METAL CHIP 7.5K 0.5% 1/10W
OLD)	R791	1-216-035-00 s METAL CHIP 270 5% 1/10W
904)	R791	1-216-642-11 s METAL CHIP 430 0.5% 1/10W
OLD)	R807	1-216-025-00 s METAL CHIP 100 5% 1/10W
904)	R807	1-216-043-00 s METAL CHIP 560 5% 1/10W

(MS-23 BOARD)

OLD)	R813	1-216-025-00 s METAL CHIP 100 5% 1/10W
904)	R813	1-216-043-00 s METAL CHIP 560 5% 1/10W
OLD)	R816	1-216-025-00 s METAL CHIP 100 5% 1/10W
904)	R816	1-216-043-00 s METAL CHIP 560 5% 1/10W

PR-114 BOARD

OLD)	R251	1-216-637-11 s METAL CHIP 270 0.5% 1/10W
908)	R251	1-216-614-11 s METAL CHIP 30 0.5% 1/10W
OLD)	R457	1-216-637-11 s METAL CHIP 270 0.5% 1/10W
908)	R457	1-216-614-11 s METAL CHIP 30 0.5% 1/10W
OLD)	R659	1-216-637-11 s METAL CHIP 270 0.5% 1/10W
908)	R659	1-216-626-11 s METAL CHIP 91 0.5% 1/10W
OLD)	THP1	NOT IN USE.
908)	THP1	1-808-969-11 s THERMISTOR(POSITIVE)
OLD)	THP2	NOT IN USE.
908)	THP2	1-808-969-11 s THERMISTOR(POSITIVE)
OLD)	THP3	NOT IN USE.
908)	THP3	1-808-970-11 s THERMISTOR(POSITIVE)

SG-140 BOARD

OLD)	C41	NOT IN USE.
908)	C41	1-163-038-00 s CERAMIC CHIP 0.1MF 25V
OLD)	C42	NOT IN USE.
908)	C42	1-163-038-00 s CERAMIC CHIP 0.1MF 25V
OLD)	C227	1-126-516-11 s ELECT 120MF 20% 16V
908)	C227	1-126-517-11 s ELECT 150MF 20% 16V
OLD)	C236	1-126-516-11 s ELECT 120MF 20% 16V
908)	C236	1-126-517-11 s ELECT 150MF 20% 16V
OLD)	C622	1-135-159-21 s TANTALUM CHIP 10MF 10% 20V
904)	C622	DELETED.
OLD)	C623	1-163-038-00 s CERAMIC CHIP 0.1MF 25V
904)	C623	DELETED.
OLD)	C627	1-163-015-00 s CERAMIC CHIP 0.0033MF 5% 50V
904)	C627	1-164-182-11 s CERAMIC 0.0033MF 10% 100V
OLD)	C659	1-163-133-00 s CERAMIC CHIP 470PF 5% 50V
904)	C659	1-163-038-00 s CERAMIC 0.1MF 25V
OLD)	C704	1-161-884-11 s CERAMIC 0.0022MF 50V
908)	C704	1-164-161-11 s CERAMIC CHIP 0.0022MF 10% 50V
OLD)	C705	1-135-092-21 s TANTALUM CHIP 3.3MF 10% 16V
908)	C705	1-135-125-21 s TANTALUM CHIP 33MF 10% 10V
OLD)	D305	8-719-110-17 s DIODE RD10EB2
904)	D305	DELETED.
OLD)	FB2	NOT IN USE.
908)	FB2	1-543-528-11 s BEAD, AMORPHOUS
OLD)	IC12	8-759-748-00 s IC WS57C49B-35T
908)	IC12	8-759-731-29 s IC WSI57C49B-35T/H1
OLD)	IC13	8-759-748-00 s IC WS57C49B-35T
908)	IC13	8-759-731-30 s IC WSI57C49B-35T/H2

(SG-140 BOARD)

OLD)	IC14	8-759-748-00 s IC WS57C49B-35T
908)	IC14	8-759-731-31 s IC WSI57C49B-35T/H3

OLD)	IC15	8-759-971-94 s IC MBM27C256A-25CZ
908)	IC15	8-759-731-33 s IC MBM27C256A-25CZ/V
OLD)	IC16	8-759-748-00 s IC WS57C49B-35T
908)	IC16	8-759-731-32 s IC WSI57C49B-35T/SYC
OLD)	IC17	8-759-747-06 s IC MB7114L
908)	IC17	8-759-731-34 s IC MB7114L/CBL

OLD)	R3	NOT IN USE.
908)	R3	1-216-061-00 s METAL CHIP 3.3K 5% 1/10W
OLD)	R76	1-216-025-00 s METAL CHIP 100 5% 1/10W
908)	R76	1-216-295-00 s METAL CHIP 0 5% 1/10W
OLD)	R462	1-216-068-00 s METAL CHIP 6.2K 5% 1/10W
908)	R462	1-216-073-00 s METAL CHIP 10K 5% 1/10W

OLD)	R470	1-216-068-00 s METAL CHIP 6.2K 5% 1/10W
908)	R470	1-216-073-00 s METAL CHIP 10K 5% 1/10W
OLD)	R511	1-216-073-00 s METAL CHIP 10K 5% 1/10W
904)	R511	DELETED.
OLD)	R528	1-216-046-00 s METAL CHIP 750 5% 1/10W
908)	R528	1-216-037-00 s METAL CHIP 330 5% 1/10W

OLD)	R656	1-216-669-11 s METAL CHIP 5.6K 0.5% 1/10W
908)	R656	1-216-663-11 s METAL CHIP 3.3K 0.5% 1/10W
OLD)	R660	1-216-063-00 s METAL CHIP 3.9K 5% 1/10W
904)	R660	DELETED.
OLD)	R675	NOT IN USE.
904)	R675	1-216-105-00 s METAL CHIP 220K 5% 1/10W

OLD)	R685	NOT IN USE.
904)	R685	1-216-025-00 s METAL CHIP 100 5% 1/10W
OLD)	R803	NOT IN USE.
904)	R803	1-249-423-11 s CARBON 3.3K 5% 1/4W
OLD)	S9	1-570-375-12 s SWITCH, SLIDE
908)	S9	1-570-373-12 s SWITCH, SLIDE

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HDCS-300 (E)
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